

Electrical Merchandising

The Monthly Magazine of the Electrical Trade

May
1917

N. E. L. A.
Commercial
Progress
Number

A Survey of Appliance Merchandising, Range Campaigns, Lighting Sales and Salesmanship Methods, from Advance Reports and Papers of the Commercial Section.

"If I Were an Electrical Salesman,"
by Henry Ford's
Salesmanager

How Contractor's
"Service" Counts
in Selling Farm-
Lighting Outfits

With 205
Merchandising and
Selling Hunches
for the

Central-station Man
Dealer
Contractor
Jobber and Salesman

Price, 20c a Copy

McGraw-Hill Publishing Co., Inc.
239 W. 39th St., New York



Service depends on the range!

THE selection of an electric range should be given more careful consideration than the selection of any other current consuming device which you sell and install on your lines. It can do more to increase or decrease your prestige, your progress and your profits than any other appliance.

The Hughes Electric Range has achieved its supreme predominancy because it is one of the most serviceable ranges on the market today.

Hughes Electric Heating Company, Chicago



Nation-Wide Advertising to Help Dealers Sell G-E Fans



The General Electric Company's fan campaign for 1917 will be run, as usual, throughout the fan season and in magazines reaching all classes of household and commercial buyers.

Among the magazines selected to carry G-E fan advertisements this season are:

**American
Atlantic Monthly
Century
Factory
Harper's
Moving Picture World
Munsey's**

**Popular Science Monthly
Red Book
Review of Reviews
Saturday Evening Post
Scribner's
System
World's Work**

Watch the Electrical Advertiser (sent to all G-E fan dealers) for the details of this big campaign, including a **complete** list of papers and dates.

Together, the magazines mentioned above reach practically the entire reading population of the United States. Most of these publications are read in every city and town in the country. Your customers will thus see the G-E fan advertising in the warm weather, when the appeal will be most timely. Are you prepared to take advantage of this selling campaign?

Write the Electrical Advertiser at Schenectady for Selling Helps

General Electric Company

Atlanta, Ga.
Baltimore, Md.
Birmingham, Ala.
Boston, Mass.
Buffalo, N. Y.
Butte, Mont.
Charleston, W. Va.
Charlotte, N. C.
Chattanooga, Tenn.
Chicago, Ill.
Cincinnati, Ohio
Cleveland, Ohio

Columbus, Ohio
*Dallas, Tex.
Dayton, Ohio
Denver, Colo.
†Detroit, Mich.
Des Moines, Iowa
Duluth, Minn.
Elmira, N. Y.
Erie, Pa.
*El Paso, Tex.
Fort Wayne, Ind.
Hartford, Conn.

General Office: Schenectady, N. Y.

ADDRESS NEAREST CITY

*Houston, Tex.
Indianapolis, Ind.
Jacksonville, Fla.
Joplin, Mo.
Kansas City, Mo.
Knoxville, Tenn.



Los Angeles, Cal.
Louisville, Ky.
Memphis, Tenn.
Milwaukee, Wis.
Minneapolis, Minn.
Nashville, Tenn.

New Haven, Conn.
New Orleans, La.
New York, N. Y.
Niagara Falls, N. Y.
*Oklahoma City, Okla.
Omaha, Neb.
Philadelphia, Pa.
Pittsburgh, Pa.
Portland, Ore.
Providence, R. I.
Richmond, Va.
Rochester, N. Y.

St. Louis, Mo.
Salt Lake City, Utah
San Francisco, Cal.
Schenectady, N. Y.
Seattle, Wash.
Spokane, Wash.
Springfield, Mass.
Syracuse, N. Y.
Toledo, Ohio
Washington, D. C.
Youngstown, Ohio

*Southwest General Electric Company. †General Electric Company of Michigan.

For CANADIAN BUSINESS refer to Canadian General Electric Company, Ltd., Toronto, Ont.

GENERAL FOREIGN SALES OFFICE, Schenectady, N. Y.; 30 Church St., New York City; 83 Cannon St., London, E. C., England

Electrical Merchandising

The Monthly Magazine of the Electrical Trade

F. M. FEIKER, Editorial Director

O. H. CALDWELL, Editor

CONTENTS—MAY, 1917

Frontispiece—Business Must Go On as Usual.....192	The Sales of Power and Industrial Electrical Heating.....216	What of Those Who Are Afraid?.....230 By Earl E. Whitehorne
Editorial—What Ails America?.....193	The Salesman and His Work.....218	The Allies of Industry.....234 By Frank B. Rae, Jr.
"If I Were an Electric-Lighting Salesman".....194 By Norval A. Hawkins	Guarding Property with the Floodlamp.....221 By J. A. Summers	Editorials.....237
The Commercial Man's War-Time Convention.....197	Laying Out the Electric Shop.....222	Hints for the Contractor.....240
Appliance and Merchandising Topics Before Commercial Section.....199	An Income and Expense Statement for Merchandise Sales.....225	Store Equipment and Store Methods.....242
Lighting Sales.....211	Where "Service" Counts in Selling Farm-Lighting Outfits.....226 By L. C. Spake	Sales Helps for the Dealer.....244
		New Merchandise and Where to Buy It.....246
		Gossip of the Trade.....251
		Record of Lighting Fixture Patents.....256



ON THE WIRE WITH THE EDITORS



A Menace to Your Magazine

PUBLISHERS of business papers are willing and eager to bear their share of the burdens created by the war. They want to do their bit with all good citizens and contribute from their earnings a full share to fight the fight. But the measures of the proposed tax bill now before Congress are occasioning no little anxiety, for if the second-class postal rate is raised from 1 cent a pound, the present charge, to 6 cents a pound for publications mailed from New York to the Pacific Coast, it becomes not a tax on the profits, but a menace to the enterprise itself.

The zone system has never been considered equitable for national publications, for it penalizes the magazine not published centrally. It increases by more than 300 per cent the cost of distribution to every national medium located in New York—the very center of the publishing industry. And just as a tax that increased the cost of transporting coal would lay its hardship on the ultimate consumer, so will this measure react inevitably against the reader and curtail circulation, seriously crippling the usefulness of heavy publications and putting others out of business. Obviously this would defeat the purpose of the tax, for a prosperous publication will pay more taxes from its profits than in postage from a dwindling circulation.

In this time of national peril we feel that any influence which tends to sectionalize the country is wrong, and it is wrong to force discrimination by levying against the publications of the country a form of taxation not imposed on other industries. We do not believe, therefore, that this urgent measure will become a law, but we bring the matter to your mind because ELECTRICAL MERCHANDISING is *your* paper as

well as ours, and it is well for us to talk plain facts about it. Your representatives in Washington should know your point of view toward this design upon the welfare of *your* magazine, which is already bearing its share in the proper tax on business in general.

The Cancelled N. E. L. A. Convention —and This Issue

IN the wake of war come sudden and sweeping changes. Throughout the first three weeks of April, N. E. L. A. officials and committeemen were all busy on the splendid plans for a convention which was to be the greatest ever held by the association. Then, suddenly enough to the industry outside, came the news that in view of events, President Wagner and his advisers had deemed it best to abandon the Atlantic City convention and to call instead a brief business meeting at New York on May 9 and 10.

In cities and towns all over the country this change probably brought disappointment to many, and revision of traveling plans to a few. But to the staff in this office it meant upheaval indeed. All arrangements made for the May and June issues had to be promptly cast aside—and instead we got busy on plans for the N. E. L. A. Commercial Progress Number now in your hands.

In the twenty-odd pages devoted to convention topics appear abstracts of the 1100 pages of Commercial Section reports which the association is making ready to send to members shortly. It brings to your desk, in fact, the convention "on paper," from the inspiring addresses of Chairman Edkins and Norval Hawkins, to the wealth of fact and argument collected by 500 committeemen, and even the printer's-ink exhibits which the manufacturers offer for your information.

JAMES H. MCGRAW
President

ARTHUR J. BALDWIN
Vice-President and Treasurer

E. J. MEHREN
Vice-President and General Manager

JAMES H. MCGRAW, JR.
Secretary

McGRAW-HILL PUBLISHING COMPANY, INC., 239 West 39th Street, New York City

CHICAGO, 1570 Old Colony Building

CLEVELAND, Leader-News Building

PHILADELPHIA, Real Estate Trust Building

SAN FRANCISCO, Rialto Building

LONDON, ENG., 10 Norfolk Street, Strand

Copyright, 1917, by McGraw-Hill Publishing Co., Inc. Issued on the Fifteenth of Each Month. Entered at New York Post-Office as Second Class matter. Subscription Rates in United States, Mexico, Cuba, Porto Rico, Hawaii and Philippines, \$2.00 per year. Canada, \$2.50.

Elsewhere, \$3.00. Single copy, 20c. When change of address is requested both old and new addresses must be given. Notice must be received by the 15th of the month before the change takes place. Of This Number, 12,000 Copies Are Issued.



"Business Must Go On as Usual"

—For It Is *Business* That Must Furnish the Taxes to Pay the Costs of the War

The patriotic electrical merchant, then—be he dealer, contractor or central-station man—has a patriotic duty to perform in using every merchandising means and skill at his command to keep his customers buying, his stocks moving, and his orders flowing into the jobbing and manufacturing centers—in fact, to help his bit in keeping "business as usual" all along the line!

The attractive electrical stores shown above, which are worth careful study by any electrical retailer seeking examples of good merchandising practice, are three of the appliance shops of the Public Service Company of Northern Illinois. It was experience gained in designing and equipping these three stores, one after the other, that is summarized in Mr. Dunn's article on page 222 of this issue.

Electrical Merchandising

The Monthly Magazine of the Electrical Trade

With which is incorporated ELECTRICAL MERCHANDISE

Volume 17

May, 1917

Number 5

What Ails America?

NOTHING.

We have a fight on our hands, and we are—as athletes would say it—"out of training." Muscles are flabby. Stomachs are fat. And just as an athlete suffers tortures during the first few days of physical training, so we are suffering bitterly the effects of our first days of preparation for war.

But there is nothing organically the matter with America. Her heart is sound: her strength is great: both brain and will are coldly concentrated upon the job she has in hand. She fears nothing—because she has nothing to fear.

* * *

THE only injuries which can come to America through this war will be self-inflicted. They will be caused by small and selfish men suffering from dollar-blindness. Politicians who know not the meaning of statesmanship, business men who cannot see past the pages of their ledgers, workmen who would trade upon a national necessity—these are the real menace. America can whip the hordes of Gehenna in fair fight, but—will she be *allowed* to fight?

It is for you to answer.

And your answer must be expressed not in words but in deeds—deeds of commonplace routine.

For the greatest need of America in this war is to keep business normal. The greatest victory of our enemy would be an American industrial panic. A slowing up of business, a cutting down of profits, an industrial stagnation, means that the sinews of war will be con-

sumed at home in idleness and misery. This war will be won with money: money must be raised by tax; taxes must be paid by business. No business—no taxes—no war, or at best a weak and piddling war which would disgrace us in our own eyes.

* * *

SO we need strategists of trade, heroes of the order-book. We need business men with patient, calm, dogged courage who will manage, in spite of irritating conditions, in spite of dispiriting pessimism, to keep up their quotas of production and distribution.

This will not be easy. We all know that manufacturers cannot get materials—that labor, already scarce, will be increasingly difficult to find owing to enlistment. We know that transportation is congested and deliveries uncertain, that taxes are sky high and mounting, that the commonest necessities of life are held at prices to make a Rockefeller gasp. We know these things and we are not afraid. They are conditions imposed by war—conditions which we must meet, battle with and overcome.

Men of faint courage will wail at these conditions like old women. We do not blame them: we pity them. Even more do we pity the country whose citizens count the cost of a just war in pennies.

But the wailers are few. Most of us—thank God!—are Americans. And being an American in this our crisis means going about business with grim confidence in ourselves, in our country, and in our ability to maintain at once the prosperity and integrity of the nation.

"IF I WERE AN ELECTRIC-LIGHTING SALESMAN"

A Little Light on Selling Light, by the Dynamic Sales Manager who Keeps the World's Biggest Automobile Factory Running Behind Hand on His Orders for Nearly a Million Cars a Year—Being the Text of an Address Which Was to Have Been Delivered at the Lighting Sales Bureau Dinner Planned for Atlantic City During N. E. L. A. Convention Week

By NORVAL A. HAWKINS

General Sales Manager Ford Motor Company, Detroit

IN THE BEGINNING God created the heaven and the earth.

And the earth was without form, and void, and darkness was upon the face of the deep. And the Spirit of God moved upon the face of the waters. And God said, Let there be light: and there was light.

WHAT you sell is what the very Spirit of God recognized the world needed first.

As Salesmen of Light you are working in full co-partnership with God.

You will succeed in direct proportion to the degree that you are animated by the Spirit that created light, "in the beginning."

The successful salesman must both *materialize* and *spiritualize* his goods.

As salesmen we really do not sell our *goods* at all. We sell our *ideas* about our goods. The goods themselves are what the house delivers *after we have finished* our sales. How primarily important in salesmanship it is, then, that the salesman have the *right ideas* about his line!

There are too many *materialists*, striving to sell just *goods*. There is far too little *spirituality* in selling. The successful salesman must be an *idealist*, yet be convincingly practical, too. He needs to have his *head* in the atmosphere of heaven and his *feet* well grounded on the earth.

In fact, the combination of the *real* with its associated *ideals* is essential in selling anything. Why, when each of you sold himself as a prospective husband to "the one girl in all the world," he idealized his real self, or she wouldn't have bought. But that was a mutual sale. "The one girl in all the world" idealized her real self, too, or you wouldn't have bought. Successful marriages are those that result in material and spiritual satisfaction. All the cancelled orders, all goods returned through the divorce courts are the result of dissatisfaction because the *real* fell so far short of the *ideal*.

Henry Ford started in business with the two basic, right ideas:

He decided to build a car at a rea-

sonable cost to the greatest number of prospects. That was the *material* aspect.

He determined to render the maximum of service to the greatest number of consumers. He started with the right *spirit*.

The business of electric lighting is, or should be, based on similar ideas.

But Mr. Ford never has had, has not to-day, and never can have the tremendous business chance of a man in the electric-lighting business.

The number of prospects who need your product, who can be interested in light, who have money to pay for light, is hundreds of times greater than the number of prospects to whom Mr. Ford can appeal with his product.

I sell automobiles. You sell light. The processes are the same.

Each of us is a man, a human agent of sale.

If you are *skillful* in selling light, you should be as much of a *sales artist* in selling automobiles. And I have a notion that I could learn to sell light.

* * *

SELLING Ford cars is a sort of religion with me now. I have grown up in it, as a young man grows up in the faith of his boyhood. It would be pretty hard for me to change my religion. But I have tried to *imagine* how I'd feel if some salesmanship evangelist of the National Electric Light Association should show me "the error of my ways" and exhort me into hitting the sawdust trail as a convert to N. E. L. A. salesmanship.

This is the vision I had, and that I can see now with my mind's eye:

A product that God himself originated, to fill the first of the world's great needs; a product which the very Spirit of God required in order to finish His creation. My line would be the human replica of that light which He pronounced "good." I would represent the service of the younger brother of the sun. I should have the tremendous feeling that I was doing part of God's

work of "dividing the light from the darkness."

I should think very little of copper and brass, of rubber or of glass. My mind would not be clogged with formulas of voltages and watt-hours. Suffusing my salesmanship vision is LIGHT! I am so completely permeated by it, so full of the spirit of light, that it verily shines from my eyes.

My new religion is too big for me to hold in. I cannot, if I would, keep my faith to myself. I have a gospel that all men need, which they must have before they can form any conception of heaven. I start out with proselyting zeal to convert a world of darkness to light.

* * *

THAT is how I should feel if I were an electric-lighting salesman.

Just such *idealized practical* salesmanship built up the business of the Ford Motor Company.

In order to make such a tremendous yet steady growth, we had to invest a very material product with *spirituality*. We couldn't sell nearly a million cars in a year, if they were just *automobiles*. We idealized the product of our factory and assembling plants. We are selling universal automobile service. The cars themselves only *deliver* the service we sell.

You do not have any such difficulties to contend with in your salesmanship. It is not necessary for you to idealize your product. Light—more light—is the ideal of all human aspirations! But you do need to *spiritualize your salesmanship* in consonance with the ideal you sell—the service of light to mankind!

I have said that selling is a mental process. I am going to spiritualize that statement about N. E. L. A. salesmanship. The sale of light should be a *soul* process.

If I were an electric-lighting salesman, even if I were assigned to a limited territory, I should not limit the *scope of my soul* in selling light. I

should see *all the world* as my field, and each individual prospect as a *type of all men* needing deliverance from darkness.

Such *practical idealism* should characterize all the *processes* of selling light.

So much, then, for the SALES element, the *processes*, of SALES-MANSHIP. Next, what of the MAN, the human *agent* in the processes of selling? I have spoken in the first person about N. E. L. A. SALES-man-ship. Now, in considering N. E. L. A. sales-MAN-ship, I address myself to the other fellow—YOU. What sort of MAN must YOU be in your selling, if you would be a master of your branch of the fine art of salesmanship?

Logic answers the question. The personality of the electrical salesMAN should fitly represent his idealized goods. In himself he must signify what he sells—the *service of light*! You carry no sample trunks; yet you must be constantly prepared to "show your goods." It is necessary, then, that *you embody your line*. Your selling purpose should be part of your very nature. Your ideals should shine from your face as if it were illumined by a Mazda lamp. You bring to prospects the *service of enlightenment*.

When you call on a man, be so filled with the desire to *serve* him with your knowledge about light, to enlighten him, that there will be no room in your mind for thoughts regarding the *profit* of the sale to you. In electric-lighting salesMAN-ship especially "It is more blessed to give than to receive." You "look out for Number One" *the best* when you follow the motto of Henry Ford—"Help the Other Fellow."

The star lighting salesman doesn't go into a home, or a store, or a factory and look around greedily to calculate how many lights he can cram into the space. He studies the needs of the prospect. He asks himself, not "How much can I make off this fellow?" but "What arrangement of

lamps and how many will be necessary to give this particular buyer the best light?" The star lighting salesman doesn't use the salesmanship of the dark ages, but the enlightened salesmanship of to-day.

The old carbon filament lamp con-

brand new Mazdas without charging a cent for the lamps! He would have choked with fury if he had read any of the millions of dollars' worth of advertising of the General Electric Company that showed light users how to save money on what they bought of lighting service concerns all over the country.

There must be a different kind of MEN in charge of the lighting companies nowadays. In my home city of Detroit the Edison Company is downright popular! I haven't heard, either, that they are losing any money by it.

If the Detroit Edison Company is typical of N. E. L. A. companies, you N. E. L. A. salesmen don't have to come to an automobile salesman to learn the right spirit you need to have as MEN. You have an excellent example in the policy of your own house.

The spirit of service is manifested especially in that wonderful laboratory of practice at Nela Park, Cleveland. All the fine equipment, all the selected force of working men and women, all the scientists up there "on the hill" are devoted, dedicated to the service of the public, for better light. If you would understand the sort of MANhood required in your salesMANship, grasp the ideals of Nela Park.

You are not selling *lamps*, but *light*. You vision for your prospects, not *bulbs*, but *beams*.

You need to be the kind of man who *feels the joy* of light. Then you can make a prospect feel *as you feel* when you picture to him his

home so attractively, delightfully lighted that he will enjoy his evenings at home.

You need to be the kind of man who feels it is *wrong* to deny goods *right* lighting of the stores in which they are sold. It should *hurt your feelings* to enter an emporium where the glare hurts your *eyes*. You should have a sense of personal injury when false, unnatural light lies about a delicate shade of blue and makes it look a sickly green. You must resent the



"Radium" Hawkins, general sales manager of the Ford automobile company, is a man of tremendous personality. To quote the words of his friend, Frank Goewey Jones, the author:

"Mr. Hawkins has the power of giving out seemingly inexhaustible energy without wearing himself out. His success has not been accidental. He has known just why he did everything in his great career as a master salesman. Better than any other man he thoroughly comprehends the art of salesmanship. He *lives* it every minute.

"I never have known a man of loftier ethics. He is an inspiration always when he speaks. His ideals are high as his accomplishments. He has a deep philosophy of life, and the cheeriest nature I ever have had contact with. He is practical and very thorough in his work. He tells things delightfully.

"The public knows, I suppose, that he is to be credited with the almost miraculous growth of Ford sales. The company now is shipping about 3000 cars a day. Norval A. Hawkins *always* has kept the factory behind his sales. Enormous as the shipments are now, he has more orders than the shop can fill. No matter how fast the general superintendent speeds up the company's productive capacity, the sales department always is a long way ahead with demands."

sumed more current and cost the consumer more money to operate than does the "sun's only rival." An old-timer in the electric lighting business, the type of business man who believed in "charging all the traffic would bear," must have cussed the air blue when he first heard of the fool idea of *giving* the consumer the use of a lamp that would serve him with more light at less expense. How he would have raved at a proposal to *loan* a consumer, in a little flat, twenty

sharp shadows that destroy the lines of grace.

Conversely, if you embody the ideals I have mentioned, your nature will be radiant in a perfectly lighted home. You will beam pleasure when you enter a store suffused with artificial daylight so real that it *vivifies* like the sun.

You don't bring your line to a prospect with the thought that if you can "land" him for a contract to light his factory, you'll *soak* him good. Your purpose is to *serve* him as best you can. You are eager to provide plenty of light, and the right kind of light to facilitate the work in his shops. You are solicitous to prevent eye-strain, mistakes and accidents. You feel happy because you represent one of the greatest "happifiers," a sufficiency of pleasant light to work by.

Remember always that the salesman represents in himself his house and his goods. Therefore YOU must have light in your nature, and be animated by the desire and purpose to serve.

You start out as missionaries "To give light to them that sit in darkness." Some of them are from Missouri, and you will have to show them.

How are you going to do it?

The "how," or the art, is the third syllable in SALES-MAN-SHIP. That is the SHIP or *skill* of the electric-lighting agent in performing the processes of selling—*your skill* in selling light.

The basis of your skill lies in two things: First, in making your prospect feel—*yes feel*—that *service to him*, not profit to yourself, is the idea in your mind; second, in making your prospect *see* this service.

You must create a *desire* for light service. The most effective method for creating this desire for light is by picturing the service which light renders to Man. Visualize light, make your prospect see it—that is enough to stir his desire for it. No normal man *likes* the dark.

Note that I said "picture" the service of light. Do not attempt to sell, especially such an idealized product as light, by a process of *reasoning*, if you would be a skillful salesman. Buyers are never *actuated affirmatively* by pure reason. They reason *against* buying, and buy only because they *want* the goods, despite any and all reasons why they should not purchase.

This feeling of want, or desire, is

emotional, not *logical*. You can arouse the emotion of a prospect, stir in him an impelling desire for light, by painting for his mind's eye pictures of the service of light to him. Make him see the utility and the pleasure of light. You need have no doubt that he will want it, once you open his eyes to what it means to him.

One of the commonest of mistakes made by salesmen is reasoning with prospects. No successful salesman works by a system of logical analysis or synthesis of his goods. He pictures image after image of the ideas he wants the buyer to have.

Make your appeal to the *eye* of your prospect. You are fortunate in your branch of the selling art, for your most effective means of creating desire is the sense of sight, the sense most commonly used by everybody. Light makes a strong appeal to vision.

Scientists have demonstrated that 90 per cent of all human impressions come through the sense of sight. It is infinitely swifter and more comprehensive in its action than is any other sense. It is the sense with which the mind forms all imaginative pictures.

So, light before the mind's eye of your prospect his office, his factory, his store, his home. Light workshops, tunnels, mines, theaters, streets, in his imagination. He has but to *perceive*; then he will *desire*.

The pictures you paint must be true. They will be true only if your ideal is *service to the buyer*. Never make him see a rainbow that lures his desire for a mythical pot of gold. If you paint rainbows, the pot of gold at the end must be the *reality of service* from your goods.

So I end, as I began, with the *ideals* of salesmanship. For the right *spirit* is the beginning and the end of all selling.

You are engaged in a *divine* service. I have quoted to you the recognition by the Spirit of God that light was the *primal* need of the world, as recorded in the first chapter of Genesis. Similarly the Bible *ends* with promise of the bestowal by the Lord God of his supremest *final* blessing, for in the last chapter of Revelations we read:

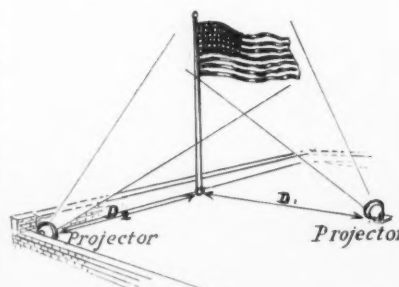
"And there shall be no night there; and they need no candle, neither light of the sun; for the Lord God giveth them *light*."

From the first day that succeeded original chaos, throughout all the world's history, during eternity itself, LIGHT has symbolized the benediction of God.

Flood-Lighting the Flag on the Roof

The intensity of patriotic spirit during recent weeks has resulted in numbers of outdoor flags being flood-lighted. Many more might be similarly lighted were the owners or those in charge of the buildings approached by electrical contractors with practical suggestions showing how the flags can be illuminated during the night hours.

An average-sized flag (up to 6 ft. by 9 ft.) requires only two 220-watt projector units to flood-light it properly. The distances from the flagstaff at which the projector units should be placed are shown in the third column of the accompanying table prepared by the engineering



Flags up to 6 ft. by 9 ft. in size can be adequately lighted by two 200-watt floodlamp units installed as shown

TABLE SHOWING NUMBER AND LOCATION OF 200-WATT PROJECTORS REQUIRED TO LIGHT FLAGS OF VARIOUS SIZES

Size of Flag	Number of Projectors	Distance from Base of Flagstaff (D ₁ and D ₂)
4 x 7 ft.	2	40 ft.
5 x 8 ft.	2	50 ft.
6 x 9 ft.	2	60 ft.
8 x 12 ft.	4	50 ft.
9 x 14 ft.	4	50 ft.
9 x 14 ft.	4	60 ft.
10 x 16 ft.	4	65 ft.
12 x 20 ft.	6	60 ft.
15 x 24 ft.	6	70 ft.
20 x 30 ft.	8	60 ft.

department of the National X-Ray Reflector Company, Chicago. For larger flags, as indicated in the table, it is desirable to use two flood-lighting units at each position. When six projectors are required the third pair should be installed at the same distance out along a 45-deg. line between the other position. If the surroundings are brightly illuminated, two extra projectors should be added. When eight projectors are to be installed place three at each of the outer positions and two at the middle position.

The Commercial Man's War-Time Convention

The Year's Achievements of the N.E.L.A. Commercial Section Committees Presented Here with an Official Statement from Chairman Edkins—Atlantic City Convention Called Off Because of National Crisis—Special New York Meeting Discusses War Measures and Votes to Hold Over All Section Officers and Committees for Another Year

ABANDONING at almost the eleventh hour the elaborate and nearly completed plans for the greatest convention in its history—to have been held at Atlantic City the last week of this month—the National Electric Light Association decided in view of war conditions to send out a call instead for a meeting of its executive and manufacturer members at New York, May 9 and 10, to discuss important problems confronting the electric lighting companies at this time.

Two hundred leaders of the industry—chiefly official representatives of member companies—were in their seats when President Wagner opened the New York meeting—in numbers a mere handful compared with the thousands of delegates ordinarily in attendance at N. E. L. A. national conventions.

Problems of administrative policy growing out of the declaration of war against Germany; means of replacing company employees who may volunteer for service or are taken by the selective draft; methods of caring for dependents of employees in military service; action to meet the increasing

prices of coal and the difficulty in getting prompt fuel shipments; capital to finance extensions—these were among the subjects demanding thorough discussion for the determination of policy and action by member companies.

CONVENTION PAPERS TO BE DISTRIBUTED LATER

With these paramount problems requiring every moment of the sessions, obviously no attempt was made to present or discuss any of the sixty or seventy papers which had been prepared for the Atlantic City convention. Instead, these papers, which are now going through the printer's hands, will be distributed to members about June 1. Meanwhile we present on the following pages abstracts of all of the various papers and reports of the Commercial Section which are of principal interest to readers of *ELECTRICAL MERCHANDISING*.

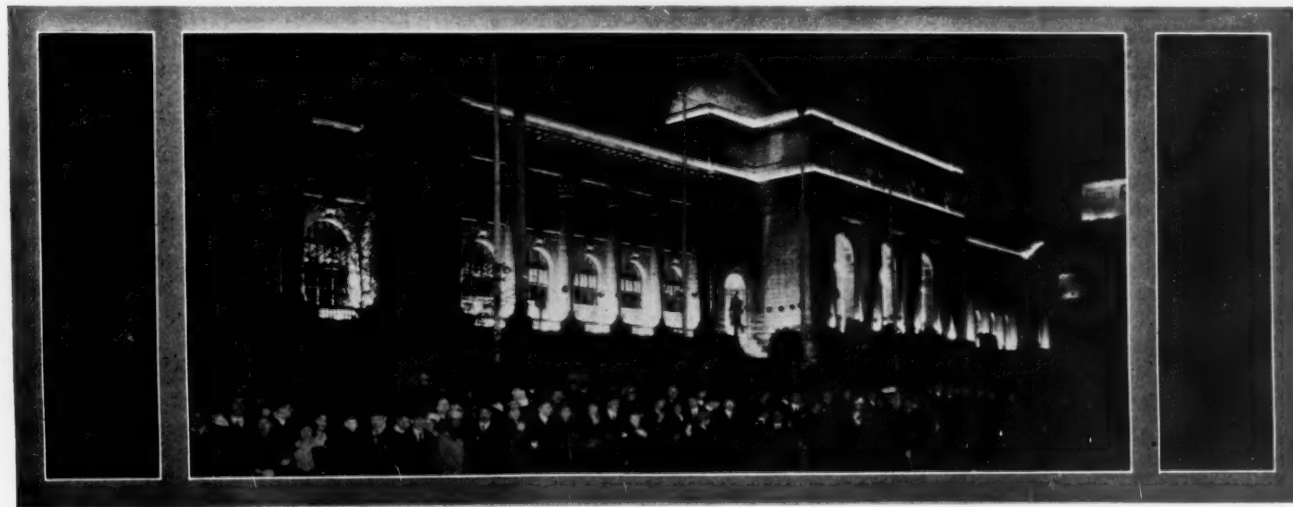
J. W. Lieb of the New York Edison Company, who recently took over important duties as chairman of the N. E. L. A. special committee on war conditions, was elected president of the association at the New York meeting. W. F. Wells of Brooklyn con-

tinues as first vice-president, with R. H. Ballard of Los Angeles as second vice-president; Samuel Scovil, Cleveland, third vice-president, and D. H. McDougall, Toronto, fourth vice-president. Paul Spencer, Philadelphia, Walter Neumuller, New York, and E. W. Lloyd, Chicago, were added to the executive committee.

COMMERCIAL SECTION OFFICERS AND COMMITTEES CONTINUED

With few members of the various N. E. L. A. Sections present at the New York meeting, it was obviously impossible to hold the Section elections in the ordinary way by vote of individual members. The official company representatives in a resolution recommended, therefore, that no election of Section officers be held, but requested that the existing officers, chairmen and committee members continue in office until their successors are elected.

It appeared to be the sense of the meeting that the activities of the various section committees may be much circumscribed during 1917 and that if it is necessary for the committees to "mark time" until more settled



Delegates to the N. E. L. A. war-time meeting at New York, May 9 and 10, found the metropolis ablaze with the national colors of the United States and its allies, in special tribute to the visit of the official commissions of France and Great Britain, headed by Marshal Joffre, Ex-Premier Viviani and Secretary Balfour. Electric lighting played a great part in the after-dark decorations, and one of the most beautiful of these night illuminations was the lighting of the

splendid New York Public Library on Fifth Avenue, above pictured. The novel effects shown were obtained by laying strings of bare lamps along the cornices and lines of the structure so that while the lamps themselves were concealed as viewed from the street, their glow upon the white marble outlined the building in soft bands of light. In the bays along the front of the structure batteries of floodlamps, pointed upward, brought out the colonnade in striking contrast.

conditions prevail, such a result could be better accomplished by postponing for the present a change in organization. Much of the committee work will henceforth probably be carried on by correspondence and will be in the nature of addenda to reports prepared this year, with the purpose of bringing these reports up to date for some future time when they can be presented in convention for discussion.

The officers of the Commercial Section who will thus continue in charge of the Section during the next year are:

Chairman, E. A. Edkins, Commonwealth Edison Company, Chicago, Ill.

Vice-Chairman, C. J. Russell, Philadelphia (Pa.) Electric Company.

Vice-Chairman, John G. Learned, Public Service Company of Northern Illinois, Chicago, Ill.

Secretary, F. D. Beardslee, Union Electric & Power Company, St. Louis, Mo.

Executive Representative, A. Jackson Marshall, 29 West Thirty-ninth Street, New York City.

Executive Committee, J. F. Becker, N. H. Boynton, Rawson Collier, F. H. Gale, Henry Harris, George H. Jones, Thomas F. Kelly, H. R. King, Henry O. Loebell, H. N. McConnell, J. C. McQuiston, M. S. Seelman, Jr., R. H. Tillman, S. V. Walton, George Weiderman and R. R. Young.

CHAIRMAN EDKINS OUTLINES IMPORTANT WORK

In a statement concerning the work of the Commercial Section during the year, requested by ELECTRICAL MERCHANDISING, Chairman Edkins said:

"I cannot allow this opportunity to pass without drawing attention to the splendid volume of investigations and reports prepared by the fourteen committees and thirteen sub-committees who have had charge of Commercial Section work this year. Some of these reports cover subjects of vital interest which have never before been considered in this Section, such as the valuable report of the committee on compensation of salesmen, indicating a deeply interesting field for further

study and investigation; the report of the committee on co-ordinate advertising, which outlines a seasonal program of merchandising publicity; the preliminary investigations of the merchandising committee on the subject of electrically equipped furniture, and the report of the committee on commercial service and relations with customers.

"The activities of the Commercial Section have grown so rapidly during the past few years that it has been

that this committee in itself is practically as large as the aforementioned bureaus. Meanwhile the work of the educational committee has been continued along constructive lines and new courses have been offered and are under preparation in accounting, practical electricity, etc.

COMMERCIAL SIDE OF INDUSTRY NOW MINUTELY COVERED

"To adequately summarize the vast amount of practical and valuable work accomplished by the Commercial Section during the last administrative year would require more space than is now available. The work of the Commercial Section as at present conducted enters minutely and exhaustively into every detail connected with the commercial side of our industry and, by cross-membership with sections, into all related activities in which commercial work is at all concerned with the technical and accounting side of the business. The work is performed cheerfully and gratuitously by busy men occupying responsible positions in their respective companies, whose services in this work are given at a considerable personal sacrifice. Under the new and changed conditions to which I have referred this work will be continued even though these necessary personal sacrifices may be greater than ever before.

"In general, the policy of the Commercial Section, at least for the immediate future, will be to watch with greater care than ever the developments in commercial work in all sections of the country; to study the best methods for developing in-

tensive business to go on existing lines; to be on the alert for any and all opportunities which may present themselves for effective co-operation with the N. E. L. A. staff at New York and with other association committees, and to hold ourselves in readiness to assume any new burdens or duties which may be assigned to us by the incoming administration."

On the following pages appear brief reviews of Commercial Section papers prepared for the Atlantic City meeting.



Ernest A. Edkins, who by request of the New York meeting will continue as chairman of the Commercial Section during this year, has prepared for ELECTRICAL MERCHANDISING, the invigorating statement concerning the Commercial Section's work which appears on this page.

"In general the policy of the Commercial Section, at least for the immediate future," declares Chairman Edkins, "will be to watch with greater care than ever developments in commercial work in all sections of the country, to study the best methods for developing intensive business to go on existing lines, to effectively co-operate with other N. E. L. A. committees, and to hold ourselves in readiness to assume any new burdens or duties which may be assigned us by the incoming administration."

necessary to organize distinct bureaus, such as the Lighting Sales Bureau, the Power Sales Bureau and the Industrial Heating Bureau; the work of these bureaus in themselves has developed so extensively as to require one or more separate sessions in order to afford adequate opportunity for the presentation and discussion of their reports. The rapid growth of the electric range industry has necessitated such broad extensions of the work of the electric range committee

Appliance and Merchandising Topics Before the Commercial Section



THE increasing attention which the Commercial Section is giving to the matter of putting appliance sales on a sound merchandising basis is evidenced by the group of strong papers on merchandising topics prepared for the Atlantic City convention and abstracted on this and following pages.

In this connection it is also of interest to note the rapid growth of association interest in the Commercial Section itself, taking the 1917 papers and reports as an index. This year the Commercial Section papers total 1090 pages, which is more than three times the number of pages submitted by any other of the five principal N. E. L. A. sections. Moreover, the Commercial Section reports, taken alone, exceed by 400 pages the combined reports of all four other sections, which together total only 686 pages.

Report of Committee on Merchandising

J. V. GUILFOYLE, <i>Chairman</i>	
G. B. COOPER	H. A. LEWIS
E. R. DAVENPORT	W. D. LINDSAY
J. E. DAVIDSON	M. C. MORROW
C. F. FARLEY	F. D. PEMBLETON
C. E. GREENWOOD	D. R. SMITH
HENRY HARRIS	J. M. WAKEMAN
O. R. HOGUE	W. S. WALLACE
J. F. KILLEEN	E. B. WALTHALL
A. G. KIMBALL	E. A. WILCOX

"THE old central station practice of giving away electrical appliances as an advertisement," reports the committee, is now conceded to be poor policy, since to give anything away free ruins future sales prospects for that particular device. In the case of the electric iron, where it is felt the public has no relative idea of the iron's value, this practice is particularly detrimental. An amount of money equal to the investment in free appliances would, if expended in ad-

vertising, ultimately bring a larger return, the committee declares.

Lighting companies' own employees, outside of the sales department, it is urged, must be educated to realize that present types of advanced and perfected lamp sockets, household electrical utilities now on the market, are not only practical but important and necessary to the modern housekeeper. It has been found that meter readers, delivery boys, lamp clerks, bill collectors and emergency service men have, in many cases, counteracted the good work of the commercial department in which many thousands of dollars were spent in order to educate the public into the use and desirability of electrical goods. Apparently education, like charity, begins at home.

The suggestion is offered that dealers make electric fans more of an all-year-round proposition, instead of simply pushing them during the summer months. Fans are extremely useful for ventilation in homes and business establishments, and in this part of the service should find a mar-

ket extending around the calendar. A schedule for monthly specials, however, is recommended very highly in order to capitalize the value of concentrated effort on given appliances.

A few types of semi and indirect lighting fixtures which are being used in dining room equipment have the disadvantage of rendering the socket table appliance difficult to use. In this connection the report states:

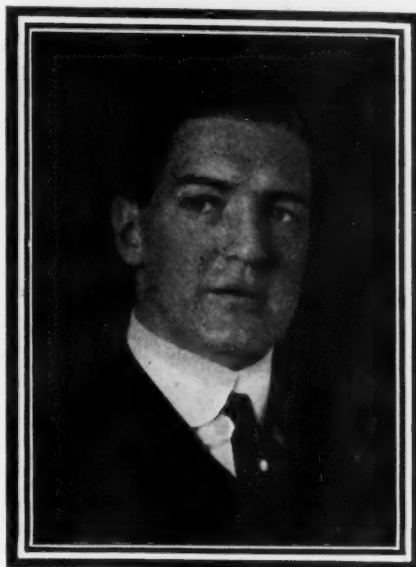
"In the development of a decidedly more attractive and better type of fixture for the home such as the new semi and indirect type, we must not lose sight of the fact that these types seriously interfere with the use of our lamp socket appliances. The continued use of this type of fixture may make it all the more necessary for us to educate the public, the architect, builders and electrical contractors to the necessity of installing additional side wall and floor outlets."

Commercial men are urged to investigate all rumors of fires started through the careless use of appliances in private homes and to improve conditions which have existed in the past by a further effort to educate the public in the proper use of electrical appliances.

ELECTRICALLY EQUIPPED FURNITURE

Considerable attention is being given at this time to the subject of electrically equipped furniture. Already more than twenty manufacturers of electric fixtures have become interested and have evidenced a desire to learn more of the project.

The wiring of dining-room and serving tables, china closets, beds, dressing tables, etc., for electrical appliances, with brackets to be used primarily for lighting, is being taken up with interest. It is believed that low-wattage devices, such as curling irons, heating pads, vibrators, hair dryers, etc., which would not consume more than



J. V. GUILFOYLE
Chairman Merchandising Committee



Portable serving table or tea-cart arranged with outlets for electric appliances

150 watts, could be safely used in this way.

It is felt that the National Board of Fire Underwriters will offer no objections to the wiring of the pieces of furniture, provided, of course, approved fittings, wiring, etc., are used. Several prominent hotel men have expressed themselves as being much interested in electrical equipped furniture, and of the opinion that such goods will provide features of interest and usefulness in their establishments.

Possible Appliance Sales in Cities of 30,000 and Less

E. R. DAVENPORT, Chairman
G. B. COOPER H. A. LEWIS

REQUESTS made by small central stations to appliance manufacturers for estimates concerning the total electrical merchandising business that might be obtained per residential connection for average cities of 30,000 or less, has produced data which, varying widely by localities, have been arranged geographically as follows by the sub-committee on possible appliance sales.

	Yearly Appliance Business per Residential Connection
Northern Atlantic States.....	\$0.506
Southern States675
Middle Western States.....	.900
Southwestern States484
Pacific and Rocky Mountain States.	1.744

Small central stations which handle electrical appliances usually feature one line of heating apparatus. There are several reasons for this, as cited by the committee: The small com-

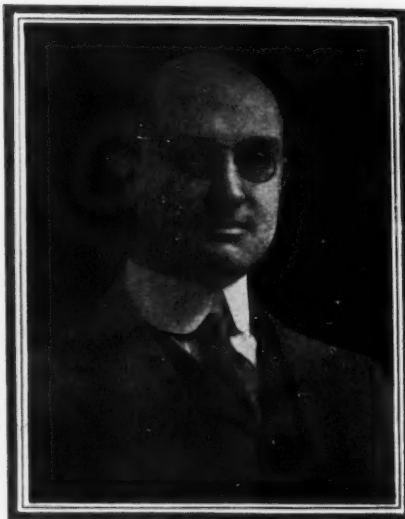
pany's buying is done from a jobber, who as a rule handles and pushes one line exclusively. Heating apparatus is sold by the jobber on a sliding scale and this has a tendency to concentrate buying. Then, from an advertising point of view, better co-operation is received by lumping business with one manufacturer.

It was found, however, that a figure equal to 50 per cent of the preferred manufacturer's business must be added to include business done with the manufacturers of other heating appliances.

Business done in vacuum cleaners, washing machines, sewing machine motors, electric fans, etc., was treated separately, and after investigation it was found that a figure equal to 50 per cent of the total appliance business must be added to include this apparatus.

The figures for total yearly appliance business above tabulated establish, however, a fair quota for any small central station wishing to sell electrical merchandise and yet not equipped with a special organization to handle this work. However, certain manufacturers report that in some cases they get as high as \$1 worth of business per residential connection.

The figures given do not cover portable lamps. This business has not yet been developed with the small central station. The committee, therefore, recommends that small companies take up the sale of portable lamps for (1) the increased energy consumption, (2) the merchandising profit to be derived, and (3) the decorative value of the goods in the central station shop.



E. R. DAVENPORT
Sales Manager, Narragansett Electric Light & Power Company, Providence, R. I.

It is urged that small lighting companies arrange their organizations so that responsibility for the merchandising work will rest upon one person. It is further suggested that the necessary changes be made in the company's accounting methods, to allow for the segregation of the merchandising business into separate accounts. This department should be charged its pro rata share of rent, light, interest on investment, time of employees who handle this work, etc.

Small companies are urged to use the window-display service furnished by the various manufacturers and other organizations, moreover, by keeping in constant touch with manufacturers and societies and watching the electrical magazines, the committee points out, ideas can be obtained to make weekly changes in the window display easily possible.

Co-ordinate Advertising and Sales Campaign

HENRY HARRIS, Chairman

H. W. ALEXANDER	T. F. KELLY
N. H. BOYNTON	J. G. LEARNED
J. E. DAVIDSON	H. N. MCCONNELL
W. L. FROST	J. C. MCQUISTON
F. H. GALE	F. D. PEMBLETON
L. D. GIBBS	C. J. RUSSELL
J. V. GUILFOYLE	M. S. SEELMAN, JR.
D. H. HOWARD	P. L. THOMSON

D. F. TOBIAS

A COMMITTEE was appointed last fall to investigate and recommend the possibilities for co-ordinating the various publicity and sales campaigns which are constantly at work within the industry. It was felt that the large amount of national advertising being done on the one hand by the manufacturers, and the localized advertising being carried by the central stations, dealers and contractors with the co-operation of manufacturers, while all of enormous value, has seemed to fail to return the maximum benefits because of its not being tied together and co-ordinated to combine its strength and impulse.

The committee, representing both manufacturers and central stations most active in advertising work, made a careful review of the situation and came to the opinion that the method of the department store in advertising "leaders" to attract the public to the store can be well adopted, the manufacturers featuring an electrical leader in their national publicity each month, while local advertising, win-

dow displays, etc., can support it and materially increase sales by centering the public's attention for the moment on one device. No more money need be spent, but rather this expenditure will be directed to a common purpose. It was felt that in the schedule two general classifications should be followed, electrical merchandising and lighting.

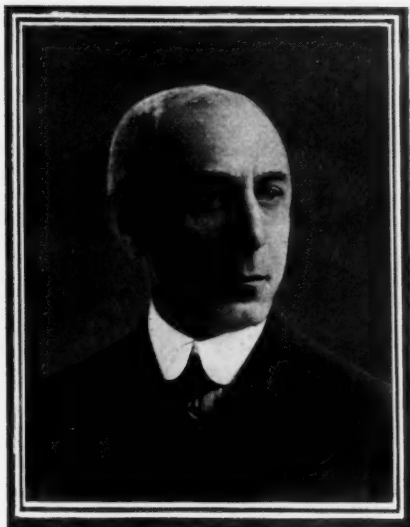
Under these two classifications, there would be a leader for each month in the year, although if any particular article was popular and warranted the attention, it could be assigned to more than one month.

Of course the recommendations that are made are suggestive only, and not

position in the advertising, and subordinating the other lines to it. In some months, the leader scheduled for the month cannot be used by some manufacturers, because they do not make it. In such cases, naturally, they will advertise as they have in the past such of their goods as they wish to push especially at that time.

Also, there is no obligation on the manufacturer to confine his advertising of any device to the one month provided on the schedule.

That the project is practical there can be no doubt; and all the men in the industry, including the sales promotion men and the advertising men, are of one mind on the subject. While there may be some slight difference of opinion as to which articles will make the best leaders, the general practice of driving hard at one time on one particular article as a leader is accepted as being the one way to secure the maximum benefit.



HENRY HARRIS

General Contracting Agent, Duquesne Light Company, Pittsburgh, Pa.

compulsory, but it is believed that to follow the merchandising schedule, herein outlined, will aid tremendously in popularizing the sale and use of electrical appliances, and to follow the lighting schedule will greatly stimulate increased and extended uses of electrical energy. Such manufacturers as have more or less extensive lines may wish to advertise not only the leader, but other appliances at the same time, and this can be easily done by simply giving the leader in that particular month a prominent

Profitable Appliance Business

C. E. GREENWOOD, Chairman
A. G. KIMBALL, DORSEY SMITH
J. M. WAKEMAN

THE only strictly profitable appliance business, the committee thinks, is that which is handled on a merchandising basis in fair competition with dealers and jobbers, although sometimes from the central station standpoint the "profitableness" of appliance business is also to be measured on its load-creating and its advertising value as well. The present general tendency, however, is toward the view that merchandising should be done on a strictly profitable basis.

"We appreciate that local conditions will partly govern the policy in connection with sales methods," the committee makes clear. "If there are no aggressive dealers, or no dealers financially able to do the business, the central station should adopt the best methods possible in placing appliances on its lines. If there are aggressive dealers selling electric appliances, we

believe that the central station should hold to list prices, and this will create more interest generally in the electrical business. Merchants do not object to fair competition; in fact, they find an advantage in being able to tell a customer that 'the electric light company is selling the same thing.'

"We recommend adhering to 'list,' yet we do not overlook the necessity of continually attracting the public with 'special sales' and 'campaigns.' We emphasize, however, the importance of making the public fully realize that during the campaign they are obtaining standard goods at a reduced rate."

The committee recommends the



C. E. GREENWOOD

Superintendent Appliance Exchange, Edison Electric Illuminating Company, Boston, Mass.

"deferred payment plan" for selling appliances without additional charge being made for financing. Consumers do not like the idea of paying even a few cents more than the regular price for an appliance. The first cost of appliances is an impediment to their introduction. The deferred payment plan not only aids in overcoming this impediment, but also enables customers to buy more than one appliance at a time.

A feature of the report of Mr. Greenwood's committee is the compilation of a number of suggestions bearing on merchandising policy, under the captions "Do's and Don'ts," collected from various sources and submitted for consideration. These practical merchandising hints are reproduced in substance on the following pages.

MERCHANDISING SCHEDULE

January.....	Clearance sale
February.....	Heating pads
March.....	Vacuum cleaners
April.....	Sewing machine motors
May.....	Grills
June.....	Irons
July.....	Washing machines
August.....	Fans
September.....	Vacuum cleaners
October.....	Percolators
November.....	Toasters
December.....	Electrical Christmas gifts

LIGHTING SCHEDULE

Better lighting
Outdoor lighting (tennis courts, playground, etc.)
Stores and windows
Residence
Electrical advertising (signs, outline lighting, display lighting, etc.)
Public buildings
Industrial
Stores and windows
Electrical advertising (signs, outline lighting, display lighting, etc.)
Residence
Better lighting (with emphasis on office buildings)
Industrial

Eighty-three "Do's" and Forty-nine "Don'ts"

That Make for Profitable Appliance Merchandising

Stock

DO—Some dealers make it a practice when taking inventory to affix a little red star to all packages that have been on hand a year or more. These can be purchased at any stationery store and are gummed ready for use. If the goods are on hand when the next inventory is taken, a second little red star is affixed, thus giving in a private code definite information to the sales force as to how long the package or article has been in stock.

—Watch your stock. See that the old stock is disposed of before new goods are delivered to your customers.

—Give special attention to the purchasing of your merchandise. Inattention to this part of your business will cause a drop in your profit.

—Carry a reasonable stock of appliances for immediate delivery. Customers become easily annoyed by poor service, once they have decided to buy.

DON'T—Buy too many of any type of appliance. Better small purchases, quick sales and repeat orders, than "dead stock."

Display and Advertising

DO—Have a sample on the floor of everything you sell, with price clearly shown.

—Educate the public. Use home and store demonstrations with constructive advertising.

—Keep your stock clean, and as neat as possible. People like to trade at an establishment of this kind.

—Keep your windows alive. Your business is bound to increase when backed by good merchandise and a fair policy.

—Feature some item in the way of a store display each week, and if possible link it up to a window display.

—Change the character and position of the display regularly.

—Have the merchandise intelligently represented. Remember that fine showrooms, handsome showcases and magnificent equipment are of no value without bright, intelligent, competent clerks.

—Display and classify appliances in harmonizing groups—as percolators, tea urns, water kettles, chafing dishes, toasters, grills, washing machines, mangles, flatirons.

—Keep your clerks informed of all electrical appliances on the market whether you sell them or not. Teach them to *sell* yours because they know they are the best and are familiar with competitive points.

—Have periodical demonstrations in the front part of the display room, as a different appliance each week or month.

—Keep your windows and store brilliantly lighted at night.

—Have daily inspection made of all appliances on display to avoid missing parts, lost price tags or untidy displays. Keep appliances in clean attractive condition. Remember that *you* talk "finish" to the manufacturer and that it influences *your* purchase. Even the *best* finish will not shine through negligence.

—Keep your stock and your *ore* clean.

—Have an attractive and appropriate background for your window displays.

—Keep your samples clean and display stands free from dust.

—Keep your price cards clean and in their proper places.

DO—Change your show windows every ten days at least. Every week would be better.

—Remember, your show windows are your best salesmen. Treat them as such. Keep them clean and attractive, and change the display frequently so as to keep them fresh and attractive.

DON'T—Forget that goods well displayed are half sold, and that the appearance of the merchandise you have to sell may make or lose a sale.

—Lose sight of the fact that a very large percentage of our customers are laymen, and know nothing about electrical appliances, and in displaying your goods see that you suggest their use.

—Forget that the best advertising is a favorable opinion passed from mouth to mouth.

Salesmanship and Selling

DO—Spend half your call in explaining your device and the other half in getting the order signed.

—Publish the cost of operating devices. This could be done on the price tag and should be a perfectly plain and simple statement to the effect that to operate the device will cost so much an hour for current. There are still a great number of people who believe that it costs a fortune to operate electrical devices.

—Explain the operation of all appliances sold. Remember that an appliance that is not being used due to lack of knowledge on the part of the purchaser is not earning all that it might for you, hence a little time taken to make sure that the purchaser understands all about the appliance is time well spent.

—Courtesy first. This is a mighty good slogan for the entire sales force.

—Try to get the customer's point of view and gain his confidence.

—Be on the level. A sale through misrepresentation is worse than no sale.

—Remember that courteous treatment is very essential to good salesmanship.

—The neat personal appearance of your sales clerks will do much toward making sales.

—Inspect each package before wrapping, inserting guarantee and directions explaining care, etc.

—Caution customers not to let liquid-heating appliances burn dry.

—Be sure that the voltage rating on your appliance is proper for your customer's circuit.

—Be sure your salesman knows all about the goods he is selling.

—Suggest the various uses of appliances to your customers, and be sure they are acquainted with all the labor-saving electrical devices.

—Advise customers against inserting forks or metal pieces into heating elements of radiant or exposed wire cookers, as grills and toasters, to avoid short-circuiting.

—Advise that immersion heaters be placed in water before current is turned on. This saves the heater and is a safer way to handle it.

—Give clear and definite instructions on the use of attaching plugs. Always separate the plug before screwing it into the socket, etc.

A Compilation of One Hundred and Thirty-two Sound Selling Suggestions for the Electrical Retailer, Collected by the Committee on Profitable Appliance Business of the National Electric Light Association

DO—Show your customers how to economize in current consumption as well as time. It helps to sell more goods.

—Move slow stock by "Special Sales," "Combination Offers," etc. Carry no dead stock.

—Try to sell new appliances to replace obsolete ones sent in by customers for repair.

—Have a printed form for the use of the sales people to notify the manager of the department of material which is called for and not carried in stock.

—Mark your merchandise plainly with its price, so that customers will not have to ask the price, and feel that they have obligated themselves to buy.

—Tell the truth about the appliance and prove it by practical demonstration.

—Supply your sales force with copies of every piece of advertising matter sent out or published by your company.

—Select salesmen who will be a credit to the company.

—Instruct your salesmen regarding the cost to operate the various appliances. That's what the prospect will ask ninety-nine times out of 100.

—Be prepared to meet all objections with convincing and logical arguments but—be enthusiastic. Enthusiasm will make more sales than mere cold, lifeless arguments.

—Have your sales force thoroughly informed to answer every possible question. People know little of the features of appliances.

—Have a cheerful manner and a sunny smile. This will be reflected by the members of your selling force and will be worth many hundreds of dollars as a business builder.

—Instruct the customer in every way possible in the economical use of appliances purchased.

—If "two heads are better than one" so are two appliances. Moral—sell combinations (a toaster and iron, etc.).

DON'T—Mention price the first time it is asked. Go on with your demonstration.

—Use technical terms in your sales talks. Too often the sales people try to display their slight technical knowledge by pouring forth a torrent of technical expressions which only tend to confuse the prospective purchaser. Above all, do not use technical language in the printed matter that is distributed or in newspaper advertising. The great need in all publicity of this character is simple, plain language that the non-user of appliances can readily understand.

—Say "Will operate on AC or DC." This is the language of the manufacturer to the central station. Simply say "will operate on your lighting circuit."

—Over-rate the appliance. A 600-watt radiator will not heat a large room.

—Get impatient at the customer's ignorance of things electrical.

—Tire a prospective customer with unnecessary comparisons.

—Try to sell every appliance on display to each customer.

—Seem indifferent or evasive. Answer all questions promptly and intelligently.

—Sell a customer more goods than he needs. Try to satisfy but do not over-do.

—Sell an appliance without being absolutely sure that the person who buys it is thoroughly instructed in its operation.

DON'T—Sell an appliance without telling the customer how to care for it. All motor appliances need regular oiling; how to do this and what kind of oil to use is important.

—Cleaner bags must be kept clean to maintain highest efficiency. Washers must be cleaned after using to keep machines in good condition and for sanitary reasons.

—Underestimate the cost of operating appliances in your enthusiasm to make sales. Be fair with the customer.

—Allow a sales person to sell to a customer unless he has been properly trained, and knows the merchandise he has to sell.

—Employ the type of sales person who will misrepresent your merchandise; goods sold in such a manner will not be productive of future sales.

—Fail to keep your selling force "alive." Have live displays in live windows with live showrooms and energetic representatives to serve.

—Forget that a properly sold device should sell another in a year's time.

—Neglect the fussy, hard-to-suit customer; she will probably be a good advertiser for you if you satisfy her.

—Forget that it aids the sale if the customer is invited to "try it" herself.

—Sell an appliance without instructing the customer as to the proper voltage upon which it should be used.

—Leave the customer until you are satisfied she knows enough about the appliance to insure its constant use.

—Sell a customer a chafing dish for the profit in sight when she really needs a grill which will be used.

—Tell a customer she can keep her coffee pot hot on the top of a vertical toaster. Tell her the truth and she will buy a coffee pot later.

—Enter a customer's premises unless admitted by someone in the house.

Policy and Service

DO—Deliver all material cheerfully. The buying public has been educated by the department and other stores to expect delivery of goods, and the electrical merchant has to get in line.

—Cheerfully exchange material when necessary. Remember the success of large department and other stores has been built upon good-will. Electrical dealers must do likewise.

—Co-operate with the men who sell you merchandise. They are interested in helping you to sell things that you buy from them.

—Establish the practicability of the appliance in question by actual demonstration.

—Cleanliness and neatness in packing and promptness of delivery are very essential.

—Tell customers not to cool electric irons by putting them in water. Advise them to disconnect at the plugs.

—Carry a complete line of electricity consuming devices and accessories.

—Be friend and adviser to your customer and remember that your responsibility does not end with the sale.

—Add portable lamps to your stock of merchandise. They are profitable, both from sale and income.

—If you hear of a good selling stunt that has been successfully used, try to adapt it to your local conditions.

(Continued on next page)

Eighty-three "Do's" and Forty-nine "Don'ts"

(Continued from the Preceding Page)

DO—Sell your goods at a profit. You will find that you sell just as much merchandise as you could at cost or less. All merchants purchase some materials which do not sell as readily as others. You will be justified, when you find that you have merchandise of this kind, in cutting the price, if necessary, to move it. Do not pursue the price cutting policy, as this is not necessary to secure business and is not profitable.

—Use it, and see if you meet with the same success.

—Give prompt delivery service. Use a special messenger in case of necessity to accommodate a customer.

—Remember the customer wants information first, appliances afterward. You want representation first, results afterward. Instruct your clerks accordingly.

—*Figure your cost of doing business and your profits as a percentage of your selling price, not of your cost price.*

—Make small profits many times a year instead of making large profits occasionally.

—Have one price. Successful modern retailing can be done only on a one-price basis.

—Welcome complaints. Many times complaints offer an opportunity to turn a kicker into a life-long booster if handled properly.

—Select appliances on quality and price, not on price and quality.

DON'T—Refuse to exchange an appliance, especially when that particular article is in good condition and can be readily sold to someone else.

—Sell small household motors for factory service. Be sure appliances are adequate for the service required.

—Sell electrical goods of poor quality. Your reputation is at stake.

—Put too much emphasis on the danger factor, in your advertising and sales talks. It is unfortunate, but true, nevertheless, that too much stress has been laid upon the danger involved in the use of electricity, rather than upon the ordinary common-sense precautions.

—Sell second-hand appliances to customers. The effect is bad. Have all used or shop-worn goods refinished and put in salable condition. If not possible to do this, scrap it.

—Make promises you cannot keep.

—Sell appliances that are entirely new to market. Serious mistakes have been made by pushing the sale of appliances under course of development.

—Lose sight of the fact that appliances are merchandise to be sold at a profit. Merchandising principles must be applied to produce that result. Watch your stock and figure on the proper turnover. Margins of profit are small and quick turnover is necessary to make the proper return on your investment.

—Forget that the success of the merchandising department depends on service to your customers, and a transaction is not finished at the sale.

—Buy merchandise because it is cheap, both as to cost and retail price, as such merchandise is the most expensive.

—Depend too much upon your estimated income from the sale of appliances, in determining your sales policy.

—You are not sure what your income will be from smaller appliances, but you are sure of your loss in profit if you sell goods at cost.

—Buy because your neighbor did. Buy because you know you can sell. Then get busy.

DON'T—Buy anything because the manufacturer happens to be a good fellow. Remember that you cannot sell his courtesy.

—Buy high-priced articles at first. Buy less costly ones and build up your trade according to demand.

—Consider the difference between cost and selling price as net profit. It is gross profit.

Repairs

DO—Prompt and reliable repair service is essential to the popularity of appliances.

—Give the customer the benefit of the doubt in making element replacements or minor repairs, wherein he or she has definitely decided that they are within the guarantee.

—Caution customers against the danger and expense of allowing novices to repair electrical appliances.

—Smile pleasantly when a customer brings in a heater cord for repair. She is likely to be a prospect for other devices if pleased with the service.

DON'T—Be alarmed at repairs. Appliances in use regularly require repair.

—Neglect "complaints." Remember that one appliance out of order is destructive advertising and one satisfied customer is a profitable return on investment.

Miscellaneous

DO—Caution customers against leaving electric irons on ironing boards with current on. Advise the use of a stand and disconnecting when not in use.

—Be careful to see that appliances you sell do not overload the circuits on customers' premises.

—Answer inquiries. All inquiries, whether telephone, mail, or verbal, should be answered promptly, completely and courteously, and followed up in a conscientious but unobtrusive manner.

—Study the methods of successful merchants in your city. Adapt to your conditions anything that you feel will be profitable to you.

—Remember that only through active co-operation of the other departments can best results be obtained.

—Hold inter-departmental meetings occasionally.

—Keep a concise record of sales and prospects as well.

—Remember this: Talking machine records and many other household articles can be purchased daily up to 11 p. m. One can read an "ad" after dinner and make immediate purchase. Try it with electrical appliances.

DON'T—Fail to visit your own salesroom regularly. Remember the "proof of the pudding."

—Criticise your subordinate too frequently. *Explanation* and encouragement are more conducive to good selling than is criticism. Remember that help and hinder start with the same letter.

—Lose sight of the fact that the meter readers can secure a great deal of good information for you.

—Forget that a little note book will aid you to remember the business-getting ideas that come to you.

Committee on Publications

F. D. PEMBLETON, Chairman

H. W. ALEXANDER	J. S. KENNEDY
F. D. BEARDSLEE	J. E. MCKIRDY
N. H. BOYNDON	A. C. McMICKEN
W. H. EASTON	J. C. MCQUISTON
F. H. GALE	L. H. NEWBERT
L. D. GIBBS	C. H. PIERSON
J. V. GUILFOYLE	M. S. SEELMAN, JR.
HENRY HARRIS	PHILIP L. THOMSON
A. W. HAWKS, JR.	EARLE E. WHITEHORNE
W. H. HODGE	R. R. YOUNG
D. H. HOWARD	

OF the committee's publications issued during the year, its Christmas booklet registered the largest sale, 420,000 copies having been distributed to 244 different companies. Of the two house-wiring booklets prepared this spring, the edition of "Wiring Old Houses" totaled 200,000, and that of "Wiring New Houses" 100,000 copies. A complete campaign of other appliance booklets and commercial literature was also planned and discussed in connection with the work of the committee on co-ordinate advertising, but it was decided that the industry is not yet ready to support the other literature proposed.

The committee has also issued during the year a leaflet designed to instruct the public in the correct and safe way to use and handle electrical appliances, co-operating with the Underwriters in the work of preventing fires by careless use of appliances and the subsequent ill effect on their sale.

In order to determine just what demand exists for the sale of publications and to discover why so many electric companies do not purchase literature, a questionnaire was sent out to N. E. L. A. member companies, with the result of the following interesting diversity of opinion:

	Yes	No	Total
Do you use circular advertising?	223	65	288
Do you have your own advertising department? ..	133	165	298
Do you issue circular advertising matter on show windows?	75	198	273
Do you issue circulars on signs?	83	84	167
Do you issue circulars on store lighting?	129	145	274
Do you issue circulars on wiring old buildings? ..	152	120	272
Do you issue circulars on wiring new buildings? ..	100	171	271
Do you believe that literature on these subjects can be effective if it is of a general nature rather than specific, showing details of local installations?	170	70	240
	1,065	1,018	2,083

To set forth the principles of appliance and merchandising advertising for the benefit of central station

sales managers, the committee plans to issue at intervals a series of articles in dialogue form on the following subjects: Principles of Selling; Principles of Advertising; The Mailing List; Circular Letters; Folders; Newspaper and National Advertising; Lantern Slides; Window Cards; Car Cards and Billboards; Using the Telephone.

Standardization of Cords and Plugs

DORSEY R. SMITH, Chairman

E. R. DAVENPORT	J. V. GUILFOYLE
C. E. GREENWOOD	

THE work of the sub-committee on standardization of cords and plugs has been parallel with the work of the wiring committee on this subject. Mr. Smith's committee recommends, however, that some of the work done by the wiring committee be taken up by the merchandising committee and approved by it, and that the wiring committee then adopt a standard from a technical and not from a sales point of view.

Mr. Smith's committee offers the recommendation that all table devices such as percolators, toaster stoves and grills be equipped with a standard cord and plug. The socket end and the appliance end of such cords should be interchangeable. Irons and kitchen utensils such as broilers should have a standard cord and plug, interchangeable for like devices. Vibrators, hair dryers and curling irons should have a standard plug for the appliance end, and for the socket end the same standard plug recommended for irons and table devices.

Many indirect and semi-indirect lighting fixtures are now being installed, the committee reports, in which the manufacturers have made no provision for outlets for the use of table devices, and in a large number of apartment houses and a certain class of buildings it is impossible to have baseboard outlets installed so that table devices can be used. It is therefore recommended that the wiring committee adopt a standard attachment which manufacturers will be able to attach to the indirect and semi-indirect fixtures now in use and which can be sold to them to be placed on new equipment.

The committee also recommends that a 600-watt socket be installed in

all kitchens so that an adapter can be used, with which one can iron and use a lamp for illumination at the same time. By the use of these 600-watt sockets the breaking down of the 200-watt sockets now generally used would be prevented.

Report of Committee on Wiring

R. S. HALE, Chairman

S. E. DOANE, Vice-Chairman

H. W. BLIVEN	T. A. McDOWELL
RAWSON COLLIER	J. P. MALLER
A. P. GOOD	E. R. NORTHMORE
E. A. HAWKINS	FARLEY OSGOOD
D. A. HEGARTY	A. A. POPE
J. A. HUNNEWELL	H. R. SARGENT
J. E. LATTA	R. H. TILLMAN
W. P. LYON	H. H. WOOD

THE report of the committee on wiring indicates progress in the numerous related yet independent subjects to which its work has been devoted.

Because of patent difficulties and trade disputes the adoption of an interchangeable standard form of attachment plug and receptacle has not yet been attained, but complete success is expected before many years elapse. A similar movement is also under way to render appliance plugs (plugs at the appliance end of portable cords) interchangeable. On the other hand, standardization of connection cords is recommended against, lest development of new types be discouraged.

An investigation of practice among American central stations with respect to pilot lamps on heating installations has indicated that in about one-quarter of the cities reported upon pilot lamps (multiple type) are required more or less fitfully, while in other cities either no position has been taken or pilot lamps are regarded as useless or a possible cause of danger. The desirability, however, of developing a *series* pilot lamp, of rugged filament and special base, and having a life equal to that of the appliance it protects, has been suggested, and the manufacturers are now at work upon the problem. The committee discusses various methods of installing pilot lights, but feels that their use should be merely encouraged, rather than made the subject of a strict rule.

Concerning concentric wiring, a number of installations have been made in different American cities, and

further reports have been received from abroad. "In no case," declares the committee, "has any fire or accident or trouble of any sort due to the method of wiring been reported." Although now forbidden by the Code in this country, the use of concentric wiring is permitted by the codes of nearly every other country. The committee feels that the National Code should not forbid any method, provided due precautions are taken in each installation. These will depend, of course, upon the lessons learned by experience, and for first installations, it admits, many safeguards should be provided. As soon, however, as experience indicates that a method gives good results, its use, the committee feels, should be gradually tried out, and experiments extended up to the point where the troubles balance the advantages. "What," it asks, "is the case in regard to concentric wire?"

In its concluding comments on the National Electrical Code, the committee declares that in its opinion "the present Code has developed so as to conserve chiefly the interests of the underwriters, manufacturers and wiring contractors, and the users of electric service are suffering from many requirements in the Code which check development and involve unnecessary expense." The wiring committee suggests, in conclusion, that more consideration be given the interests of the users than is now, in its opinion, being done.

Clocks in the Field of Electric-Light Appliances

PROVISION by which any alternating-current distributing system becomes also the means of distributing absolutely correct standard time to customers' synchronized clock mechanisms of the most simple construction, located anywhere on the system, was described in the paper by Henry E. Warren.

Besides certain operating advantages resulting from the closer regulation of frequency and greater ease of manipulation at the switchboard, the chief commercial results of such clock service would in all probability lie in the extension of electric service due to its greatly increased value to the customer.

Already, from experience obtained

on the Boston Edison system, where the plan has been in use, it has been demonstrated that there are numerous firms, such as manufacturers with isolated plants, electric railways utilizing their own power for lighting, public schools, etc., which are so anxious to secure the advantages of the alternating-current clocks that they will connect with the public lighting companies for this purpose alone. Having done this, it is obvious that many of

these new customers will find other uses for the service.

Such a system would also result in an increase in revenue from the energy used by the clocks, and a larger sum from rentals where the clocks are operated on a monthly basis. At 10 cents per kilowatt-hour the cost per month of energy to operate 1000 clocks would be \$80, or if rented at 25 cents per month, these same clocks would net \$250 besides revenue for energy.

Promoting the Electric Range



THE rapid growth of the "cook-by-wire" idea, and the corresponding development of the electric-range industry have necessitated such extensions of the work of the N. E. L. A. electric-range committee that with its numerous sub-committees it now constitutes a veritable Commercial Section bureau in itself. The reports abstracted on this and following pages indicate how the range problem has been studied from many angles, but with the identical conclusion in every case that, as one chairman puts it, "the electric range is here to stay."

Commercial Recommendations for Electric-Range Campaigns

JOHN ABBINK, Chairman

C. E. GREENWOOD	R. A. MCGREGOR
GEORGE A. HUGHES	R. B. MATEER
J. F. KILLEEN	M. C. MORROW
C. N. LEWIS	H. P. G. NORSTRAND
H. A. LEWIS	L. W. PRATT
M. E. LOUTH	W. J. ROSENTHAL
C. B. YONTS	

"THE electric range has come to stay."

In these words does the sub-committee on commercial information and recommendations sum up the expressions of opinion received from scores of central station commercial men all over the country. Already some 100 companies have sold 12,800 ranges, and everywhere central sta-

tions are clearing their decks for still larger sales in the immediate future. The 12,800 ranges referred to have a connected load of 62,852 kw., or an average of 4.9 kw. per range. The maximum demand varies from 4.1 kw. to 0.62 kw., averaging 2.16 kw.

Much valuable material and discussion on rates, policy, selling methods, and campaigns under adverse conditions, is given in the report. Range revenues are compared with revenues from other central station loads, showing that ranges average \$40 income per year compared with annual lighting revenues averaging \$22 from the same premises. Through the electric range, moreover, central stations are taking on much new business without materially increasing existing lines. Reports received on sales policies and methods and the results have been combined into symposiums affording much valuable information on range experience.

Under the heading of "Co-operation with Dealers and Contractors," the committee states:

"Ever since the electric range was seriously taken up by the central station it has been realized that something must be done to encourage the dealers and contractors to display them and make an effort to sell them. The prices at which a majority of central stations sell ranges are not high enough to allow the dealer or contractor to sell them at an inviting profit. Some central stations have

turned all the wiring for ranges over to the contractors, while others believe that for the first few years at least the wiring should be done by the central station itself to insure absolute standardization of the installation.

REPORTS FROM CENTRAL STATIONS ON CONTRACTOR CO-OPERATION

"We secure bids from a number of contractors for wiring ranges of any size and in any location, guaranteeing the successful bidder fifty installations," explains one central station manager. "We recently entered into a contract with one of the local dealers whereby he agrees to wire each range sold, regardless of size or location in the city, for \$22.50. On some of the contracts he makes considerable profit, while others are handled at considerable loss. The average cost of installation (inside wiring only) is between \$17 and \$18 for labor and material."

"Says another: 'All the wiring for electric ranges in our territory is done by local contractors. The only exceptions have been several apartment houses where 10 or more ranges were sold at one time.'

"We have made arrangements with the manufacturers to have several of the better dealers in our city act as their jobbers," explains a third. "We agree to purchase all of our ranges through these dealers, and they are well satisfied with the plan."

"Another: 'We allow the contractors here \$5 over and above what they receive for doing the actual wiring if they persuade a house-wiring customer to install a range outlet, whether a range is purchased at once or not. If a dealer or contractor sells a range he is given \$15 cash.'

"And another: We offer contractors \$5 for original leads turned in which result in the sale of a range within thirty days. Contractors and dealers are urged to display ranges in their stores, and each time a sale is made we allow them up to \$15 on the cost of the wiring for it."

A MODEL ELECTRIC RANGE CAMPAIGN

"One of the most interesting features of the report is a model campaign for selling electric ranges, made up of suggestions received from central stations which have been more than usually successful in the sale of these ranges. Local conditions will

prevent the adoption of some of the suggestions made in some instances, but in general the campaign outlined can be put into service by any central station.

"The first, and probably the most important, suggestion offered by the committee is for the thorough education not only of those who are to sell the ranges, but of as many of the central station employees as it is possible to enlist. Demonstrators should be thoroughly trained by actual cooking experience on the range so that that are no questions regarding the cooking of any dish which they cannot answer quickly and with decision. Salesmen should be required to tear down a range and put it together



C. E. MICHEL
Chairman Electric-Range Committee

again so that they will know its every part, and be able to make minor repairs if necessary. Nothing so quickly dispels the idea which so many new range users have—that it requires an expert to take care of the range—as the prompt location of trouble and its repair by someone who ordinarily is not expected to know about it.

"Trouble-men, installation and distribution department employees should be trained in their duties, and should be given hypothetical troubles to solve. It will help greatly if ranges are purposely put out of repair and these men are allowed to find and correct the trouble.

"Ranges should be sold to every employee who is expected to have anything to do with range work so that

he will be able personally to recommend their use. No employee who has not at least been sold the idea of cooking electrically should be allowed to have anything to do with range work.

"While the central station employees are being trained the customers of the company should be educated also to the idea of cooking electrically, by means of advertising. No attempt should be made in the beginning to sell the range itself. Various central stations believe that educational advertising should be kept up for varying lengths of time. Opinions have been expressed that an educational advertising campaign should be conducted for at least three months before an attempt is made to sell a single range. Others advise the continuance of educational advertising for a period of two years before sales advertising is used. The committee believes that local conditions will dictate the length of time for which educational advertising is needed. This advertising may take the form of booklets distributed to each customer, attractive letters mailed to all customers, or to a selected list of prospects only, or of newspaper copy.

"Proceed carefully in making the first few sales to see that the ranges are installed in the homes of those customers who have thoroughly been sold the idea of cooking electrically. Then follow up the installations with careful demonstrations. Efforts the first year should be confined to quality rather than quantity sales.

SELL THE INITIAL RANGES CAREFULLY

"The particular point here is that a few ranges well sold at the start of a campaign make for permanent success, while experience has shown that where a drive is made to sell a large number of ranges at the beginning of a campaign the want of proper attention due to lack of experience on the part of central station employees causes as high as 35 per cent of the new range users to become dissatisfied and after a short time to refuse to use the range. In this way 35 per cent of electric range installations are referred to as failures, and these unfortunately overshadow the 65 per cent of successful installations.

"Lose no opportunity of displaying electric ranges wherever large numbers of people are likely to congregate, as in church fairs, household and pure

food shows, county and state fairs, department stores, etc., having the ranges in operation if it is possible to do so. Serve electric luncheons to women's clubs, etc., at every opportunity. Permission will usually be given to make a short talk on 'the advantages of cooking electrically.' Such advertising is expensive, but it is the most effective.

"See that your trouble department is super-efficient in the matter of taking care of range troubles, both as to results obtained and time.

"When the sale of ranges develops to a large degree, be sure that you have a representative stock of ranges constantly on hand. Selling from a catalog may be successful enough for a time, but nothing so quickly discourages the sales force and the prospect as the inability to deliver ranges when ordered.

"Testimonial letters from satisfied users are the most effective means of convincing a wavering prospect. They should be obtained whenever possible.

APPOINT A RANGE SALES MANAGER

"When possible a salesman who has proved his interest in central station work should be placed in charge of the range salesmen and demonstrators. He should report to the head of the

commercial or appliance division of the company's activities. Experience has shown that the direction of salesmen and demonstrators requires the full time of one man, if the campaign is to be made a success.

"In cities where there are apartment houses the central station has an opportunity which should not be overlooked. There is no good reason why every department house with a central heating plant should not be equipped electrically throughout. The central station should not attempt at once to go into the business of equipping apartment houses in a wholesale way, but should concentrate on one or two progressive builders, contractors and architects, insuring the installation of ranges in one apartment building. The ranges when installed should be as carefully watched as though they were the first installed in the territory. Arrangements must be made to insure a demonstration to each new tenant. It must be realized that people who live in apartments are constantly moving, and that the failure of an apartment house installation will be much more quickly advertised than will the failure of a range in a home.

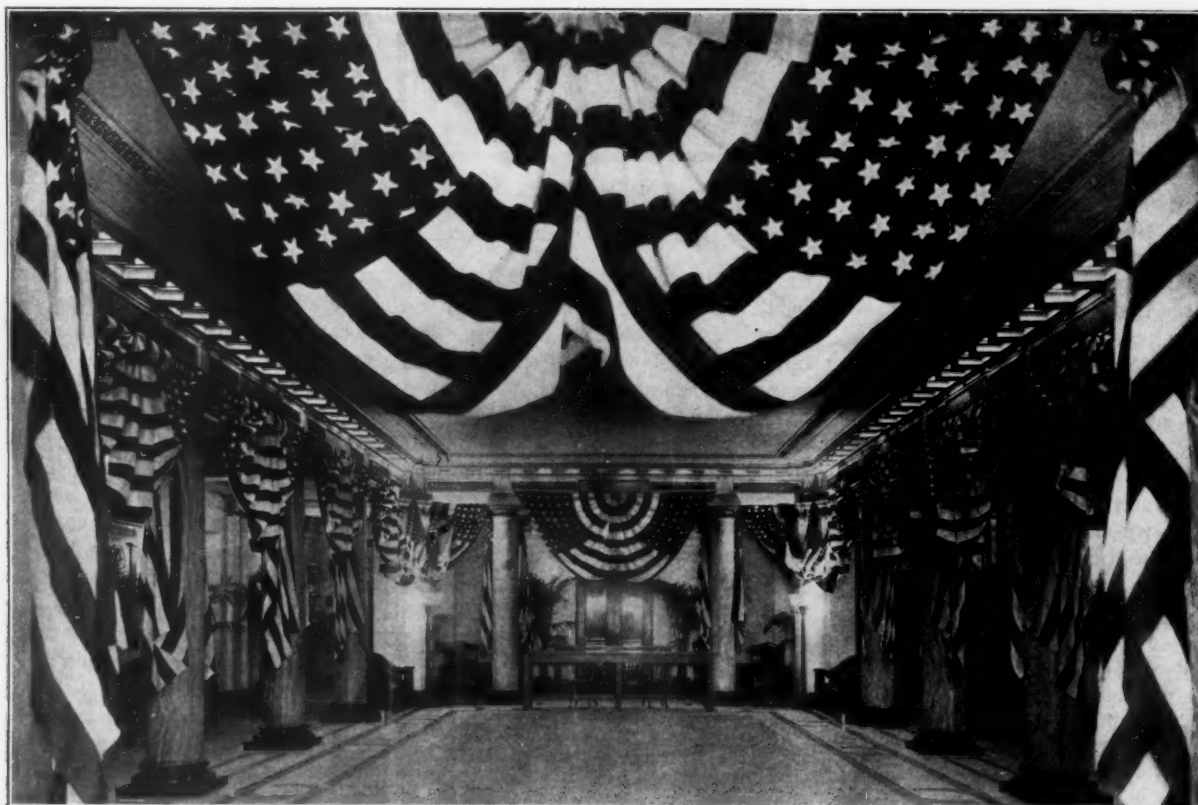
"When the first apartment house has been equipped it should be adver-

tised by the central station. Such advertising will be of benefit both to the station and to the apartment house owner, and will obtain the good-will of the latter. It will be found that one apartment house installation which is successful will bring inquiries, at least, from practically every builder in the city.

CAMPAIGNS IN SUBURBAN TERRITORIES

"Campaigns in suburban and rural territories do not differ greatly from those in larger cities except that it is more difficult in such territory to reach all customers. The methods adopted by central stations which have been successful in such territories, are outlined in another part of this report, and it is recommended that the suburban company planning a campaign of this kind follow these methods as examples."

If the fundamentals here set down for the conducting of a range campaign are followed out, declares the committee, those central stations which have not yet seriously taken up the sale of ranges, or which have not been as successful as might be wished, will have laid the foundation for a constantly growing electric range business.



Entrance hall and registration desk in Engineering Societies Building, New York, where N. E. L. A. war convention was held

Cooperation Between Manufacturers and Central Stations

H. E. YOUNG, Chairman

JOHN ABBINK
J. P. CLAYTON
C. E. GREENWOOD
M. C. MORROW
G. A. HUGHES
M. E. LOUTH
H. P. G. NORSTRAND

IN commenting upon the rapid increase in the volume of the electric range business as evidence of the growing public interest and confidence in the "cook-by-electricity" idea, the committee points to the need and opportunity for co-operation in greater educational and publicity efforts. The success of the automobile, the telephone, the Mazda lamp and countless other commodities, it says, has been due to aggressive, well sustained advertising campaigns. The industry is therefore urged to utilize the organization of the range committee to the utmost in co-ordinating the use of advertising matter and space.

The subject of training schools for teaching women to properly demonstrate the electric range is also dwelt upon, and central stations are urged to give more care to the education and training of these demonstrators and salesmen and to see that proper literature is placed in the hands of every range purchaser.

The committee feels that, in view of the excellent organization effected through the electric range committee, the Commercial Section, and the National Electric Light Association, a separate society of electric range manufacturers would not only be unnecessary but undesirable, and recommends that the advantages of association membership be brought to the attention of any range manufacturer not at present a member.

Inasmuch as the cost of introducing the "cook-by-electricity" idea locally is borne largely by the central station, it is suggested that discounts and prices of electric ranges be predicated on a quantity basis, but that the question of price should be left to the manufacturers and the question of rate to the central stations, for if both of them combine to develop the market the quantity manufactured will increase and the cost will be improved thereby.

During the period necessary to introduce electric cooking, it appears that usually few if any ranges sold at a net profit. It is hoped, therefore,

that the utmost co-operation between manufacturers and central stations may be developed with the object of improving merchandising conditions. The consensus of opinion regarding the merchandising of appliances by central stations seems to be that they should be sold at a profit. This should be the goal toward which we should work with electric ranges, and the utmost help from all concerned is necessary to bring it about.

The Electric Range Situation from the Manufacturer's Viewpoint

J. PAUL CLAYTON, Chairman

J. D. A. CROSS
G. A. HUGHES
J. F. KILLEEN
H. A. LEWIS
M. E. LOUTH
M. C. MORROW
H. P. G. NORSTRAND
W. S. ROSENTHAL
H. H. RUSSELL
ARTHUR STOCKSTROM

THIS report was based on replies to a letter issued by C. E. Michel, chairman of the general range committee, inviting manufacturers to lend their aid to the range situation by naming conditions in their own experience which have hindered the more general introduction of the electric range.

Recognizing that there is some opposition, generally speaking, on the part of central stations to the slight preferential in discounts offered to jobbers under the Hoskins patent license, it is suggested that until the time (probably one year) is ripe to secure any modifications, central stations forget if possible their objection to the schedule.

There is probably no one thing which has caused more annoyance to manufacturers during the past year than unreasonable demands for sales service on the part of central stations. It is not suggested that manufacturers ought not to do something in a broad way to help the sales locally, but that the manufacturers' representative should teach the local company's salesmen how to sell ranges.

Size, arrangement of organization and difference in point of view vary the difficulties encountered in working with central station customers. For clearness in presenting this subject it is divided into five parts, covering successive steps in a range sale:

1. Finding and Handling the "Prospect."—The central station by analyzing its lighting company customers

and segregating the live range prospects can cut selling expense by confining range advertising to the real prospects.

2. Selling the Idea of Electric Cooking.—A demonstration of the range to the prospect is necessary before a sale can be made.

3. Selling the Range.—Range prices and wiring costs should be given to prospects as one quotation.

4. Follow-Up Work.—Every purchaser of a range must be taught to operate efficiently.

5. General.—The range problem should be considered from the consumer's point of view and not from the engineer's.

The Range Situation from the Central Station Viewpoint

R. B. SNYDER, Chairman

JOHN ABBINK
J. PAUL CLAYTON
R. D. CUTLER
C. E. GREENWOOD
HARTWELL JALONICK
H. E. YOUNG
C. N. LEWIS
R. A. MCGREGOR
R. B. MATEER
R. J. PATTERSON
L. W. PRATT
C. B. YONTS

THE most important impediments to the range business, according to the report of the sub-committee on the central station viewpoint, line up as follows:

1. Absence of specific information as to the practicability of the electric range.

2. Inactivity on the part of manufacturers and central stations in promoting range business among employees.

3. First cost of range.

4. Ineffective service to the range customer.

5. Lack of enthusiasm and faith among range salesmen.

6. Absence of effort to "humanize" the electric range.

7. Lack of economical water heating facilities.

The high first cost obstacle is usually surmountable by means of time payment terms, effective sales arguments or both. Many central station employees whose positions bring them in contact with the buying public will, it is pointed out, have to be sold on the effectiveness and desirability of the electric range as a proposition for the family of moderate circumstances. The education of these unbelievers, it is urged, is absolutely necessary to the future success of the electric cooking idea.

Standardization of Electric Ranges

C. E. GREENWOOD, Chairman
 J. D. A. CROSS M. E. LOUTH
 THEODORE DWIGHT H. F. G. NOSTRAND
 G. A. HUGHES J. F. ROCHE
 HARTWELL JALONICK R. B. SNYDER
 H. A. LEWIS ADOLPH STRAUCH

ONE of the big obstacles in the way of present-day electric range progress is the high cost of manufacture. The committee points out that anything the manufacturer can do to reduce this cost will be helpful, and as one means toward the end the report recommends fewer designs. The commercial feature of individuality in design should be sacrificed, at least for the present, for the important features of better workmanship, with reduced production cost. Fundamental types are recommended as follows:

1. The so-called cabinet range with canopy, a minimum of three surface burners, side oven, right or left, and a warming closet.

2. The flat-top range, having a minimum of two burners and with oven below the cooking surface.

A standard height of 33 in. for cooking surface is suggested.

The burner repair problem is a serious one, and in view of its importance to the dealer it is strongly recommended that burners be made interchangeable. In time common burners will be demanded of all makers of ranges.

Referring to electric range connections, the committee is of the opinion that the built-in terminal box adds materially to the cost of the range, and is not essential. It suggests the simpler method of using merely three wires from the range to which the wireman can connect, and standardization on the point from which these wires lead from the range. This point in cabinet ranges might be on the back of the range at the side opposite the oven; and in flat-top ranges, a location on the back toward either right or left side.

Without detracting from the appearance of the range, it should be possible to place the fuse blocks in an accessible location, and it is pointed out that this is a most desirable feature of construction.

In the interest of lowering production cost, it is generally conceded that

pilot lights may well be omitted. Receptacles for percolators and toasters should be furnished, since in many cases the use of the smaller units is more efficient than that of the regular range burners.

The committee recommends the standardization of range switch design and operation, and suggests that standard labels on switch signals should be "High," "Medium," "Low," and "Off."

Electric Heating of Domestic Water Supply

ADOLPH STRAUCH, Chairman
 F. D. BAKER G. A. HUGHES
 W. C. COLE H. A. LEWIS
 J. D. A. CROSS R. J. PATTERSON
 J. F. ROCHE

WATER heating by electric means is no less important as an electrical load than is electric cooking, in the opinion of Mr. Strauch's committee. Every central station should give electric water heating careful consideration, for the revenue can be made to equal or exceed that from electric cooking, compared with which it is an even more desirable load.

Combined with an electric range, water heating will increase the range's popularity, supplying range customers with ideal hot-water service. Such combination installations are quoted to consume energy in amounts ranging from 22 kw.-hr. per month in one instance, to a maximum of 1810 kw.-hr. in another case. The success or failure of electric water heating in any community or installation will depend upon (1) the rate, (2) the selection of heater, (3) the method of installing, and (4) the thermal insulation of the hot-water tank.

The recommendations of the committee have been based on supplying domestic hot water service, for the reason that the subject is one of vital importance in connection with the introduction of the electric range, but the information contained will also be found of value in the development of electric water heating in barber shops, hotels, restaurants, apartment houses, dairies, industrial establishments, etc. When considering electric water heating propositions, it is well not to become discouraged by comparing the heating units of a kilowatt-hour with those contained in coal, wood and oil, for the reason that electric heat can

be utilized much more efficiently, and almost every one is willing to pay more for its convenience.

Technical Information on Electric Range Operation

HARTWELL JALONICK, Chairman
 H. A. BROOKS M. C. MORROW
 THEODORE DWIGHT J. F. ROCHE
 G. A. HUGHES MATHIAS TURNER
 J. F. KILLEEN

SOME critics of the electric range have insisted that the top elements be "speeded" to heat more rapidly utensils placed on them for cooking, so that the range will more nearly simulate the familiar gas range in rapidity of heating. After consideration of this point, the committee finds that to increase the element wattage per square inch in such top elements would lower their inherent heating efficiency, besides shortening their life. The experience of the operator and the kinds and shapes of utensils used will, however, have marked effect on the performance of the range elements. Conservative manufacturers at present prefer to secure element life rather than excessive "speed," and accordingly design their ranges to operate satisfactorily with vessels which do not exceed the diameter of the elements by more than 1.5 in. For the same reason of protecting the average broiling element, the committee does not recommend increasing the wattage of the broiler, but proposes instead that the housewife be urged to pre-heat the oven to 500 deg. Fahr., or as she is instructed to do before placing in it the article to be broiled. If this is done the surface will be quickly seared, and very satisfactory broiling results will be obtained.

Among the installation features which contribute most to the success of the electric range are (1) proper electrical construction on the customer's premises, (2) proper service leads to the customer's meter loop from the central station's secondary lines, and (3) proper installation of transformers, secondaries and other distributing equipment. Specifications for service installations (using No. 6 copper conductor) and for interior wiring (three No. 8 conductors) are included in the report, which also gives a table showing the size of conductor to be employed for runs of various lengths.

Lighting Sales



FROM the very beginnings of the electrical industry, lighting has always formed the backbone of its business, yet the 1917 reports of the Lighting Sales Bureau point out new selling opportunities by the score for applying electric illumination. Principal interest at this time probably centers in the industrial lighting opportunity, especially now that shops and factories are being prepared to operate at increased production and efficiency. Flood-lighting for protective as well as ornamental and publicity purposes comes in for its share of attention, and each of the other fields for commercial effort is represented in the reports of the Lighting Bureau committee.

Industrial Lighting

J. J. KIRK, Chairman

E. A. ANDERSON	J. B. JACKSON
A. L. ARENBERG	E. F. KELLY
R. W. ASHLEY	W. F. KOHLBECKER
F. O. BROLI	J. P. LYONS
L. R. CRAWFORD	C. A. MAU
A. O. DICKER	W. H. MCBRIDE
R. B. ELY	F. H. MURPHY
F. G. FLICKINGER	H. P. PITTS
F. L. FRIZZELL	L. F. RIEGEL
C. M. GASSAWAY	J. W. RUFF
L. L. GRITZEN	W. R. SAMMONS
W. W. HAMILTON	J. L. STAIR
F. C. HARD	H. B. STEARNS
M. H. HENDER	H. D. STOKES
J. T. HUNTINGTON	F. C. TAYLOR
O. L. JOHNSON	G. B. WALKER

O. F. WARE

THE problems to be met in the design of industrial lighting installations are complex, and each case needs individual study to get the best results. This fact is thoroughly realized by the man who is designing lighting installations to give best results and to make satisfied customers. By comparing his problem with one that has been successfully solved the salesman can make a capable lay-out. Data and general information, with such illustrations as can be obtained, will not only be an aid to the salesman in mak-

ing his plans but should enable him to convince and satisfy his customer more easily.

For example, a tailoring shop equipped with sewing machines, sewing tables, pressing tables and storing space often presents a hard combination. If now, the salesman can refer to other installations in tailoring shops, he can from these select equipment and make recommendations. If he has any doubt as to whether the layout will give a high enough intensity, he should check his work by calculation.

Such data are valuable also in aiding a salesman to secure orders, for nothing convinces a prospect more thoroughly than photographs and information on actual installations.

Lighting and distribution curves and figures are also often valuable in convincing the prospect of the necessity of selecting proper combinations of equipment. The salesman must, however, be very careful that the customer does not get the idea that his factory is to be equipped with a theoretical and not a practical installation.

The salesman should be well in-

formed on not only industrial lighting but so far as possible on the many other phases of the lighting business. He should be able to talk intelligently on wiring for both light and power, and to figure rates readily, answering any of the many questions the prospect is likely to ask. Such information gains the confidence of the customer and often enables the salesman to place an installation where otherwise he would have been unable to get the prospect interested.

ADVERTISING FACTORY LIGHTING

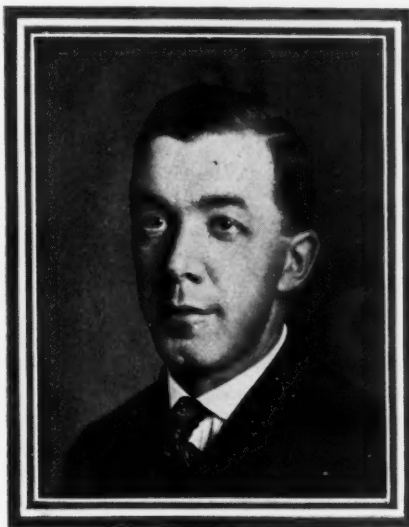
The successful selling of industrial lighting, like everything else, depends on the amount of advertising it gets. Every advertisement of the central station company is an advertisement for the manufacturer of electric lighting equipment, and in turn every advertisement for better lighting equipment is an advertisement for the central station company.

An advertisement by either helps to promote better lighting installations. Good advertising not only announces what the advertiser has to sell, but impresses on the mind of the prospect his own needs.

Newspaper advertising always produces results. The committee believes, however, that it is not quite so effective as direct advertising for industrial lighting. Nevertheless, it suggests good illumination to every one who sees it, and keeps the company's name and business before the public.

For direct advertising, folders are very effective. Such folders not only call attention to the newer methods of illumination, but also provide the prospect with photographs of successful installations, which help him to realize the fact that these lighting methods are a reality and not an unpractised idea. Nothing enables the prospect to get a better conception of what good lighting really is, and what a high-class installation looks like than such photographs. When a prospect sees a photograph of a good installation he usually begins to imagine how his factory would look, and how his workmen would feel, under something like it.

Form letters are also valuable advertising matter. The customer seeing such a letter begins to wonder what could really be done with his factory. As a result of such letters the salesman is often admitted for a conference where ordinarily he would be given no attention. The man who



THOMAS F. KELLY
Chairman Lighting Sales Bureau

once starts to earnestly consider the lighting proposition will read articles in magazines or even advertising booklets and give them close attention, if they pertain to illumination for factory purposes.

SELLING POINTS

There are numerous facts which may be used by the salesman to show the prospect why he should have good illumination. The salesman cannot always tell which of these "sales points" he should dwell upon most until he has talked with the customer.



IF YOU thought that you could increase your production, reduce spoilage, prevent accidents and improve the quality of your product, would you be willing to investigate our proposition?

Modern Efficiency Means Electricity

—and Electricity, properly installed by our Illuminating Engineers, will light your factory more effectively at present cost or less.

The services of our Illuminating Engineers are free—and, whether you install electric lights or not, you really ought to know all about our "No-Fire-Cost" Factory Lighting. Use our free factory lighting proposition by which we save you the entire installation including the wiring.

Call Randolph 1286, Local 193, for one of our Illuminating Engineers today.

COMMONWEALTH EDISON COMPANY
Edison Building, 72 West Adams Street

One of the striking newspaper ads used in the industrial lighting campaign at Chicago

He can then pick out the arguments which seem to have the most force and handle them in the way which produces the best effect. The following is a list of the most important sales points which may be used:

- Accident prevention.
- Increased production.
- Less spoilage.
- Hygiene.
- Physiological effect.
- Psychological effect.
- Following are some of the causes of accidents during dark hours:
- Tired eyes, due to strain.
- Workmen unable to see objects.
- Indifference to work due to nervous strain and psychological effect.
- Contrast in light intensities.
- And below are suggested some of the reasons for spoiled work:
- Figures on specifications misread.
- Measurements misread.
- Machines improperly adjusted.
- False marks on work mistaken for center punch or other marks.

Sizes on drills misread.

Poor work due to tired eyes.

Men careless, due to headache and nervous strain.

Although the average manufacturer attaches little importance to the psychological effect of good lighting, and may think one is trying to force some impractical theory on him by mentioning it, it is a known fact that the stimulating and cheering effect of light is wonderful. The effect of turning on the light in a well-illuminated factory is the same as getting up on a bright and sunshiny morning. Everyone realizes that no man can do his best work unless he is in the right spirits. It is not only a question of good work but of satisfied employees. One dissatisfied employee may upset the work of the whole shop. Psychological influence may seem a small matter, but it is a thing which tends greatly to depreciate the value of many workmen.

The 118-page report of the industrial lighting committee also describes and illustrates many improvements in factory lighting equipment as well as numerous complete installations in shops and factories.

Outdoor Lighting

C. L. LAW, Chairman

N. R. BIRGE
D. K. CHADBOURNE
JAMES DAWSON
R. B. ELY
C. A. B. HALVORSON
C. W. KENDALL
P. B. KORST
H. W. KORHAMMER
H. H. MAGDSICK
W. G. MARTHA

W. R. MOULTON
J. F. OWENS
F. C. PIATT
L. C. PORTER
W. REED
ELLIOTT REID
W. A. ROOT
J. L. STAIR
C. J. VANGIERSON
A. B. WOLLABER

AS a new field for the promotion of the lighting industry, outdoor electric illumination promises to be a channel leading to greater volume and increased load, although, so far, says the committee, little organized selling effort seems to have been devoted to developing this kind of lighting business.

The first part of the report includes a collection of diagrams, photographs and descriptive matter on outdoor lighting in general, while the second section takes up in detail the available lighting equipment and shows data and photometric curves which can be used in the design and construction of outdoor lighting systems.

Particular emphasis is very properly laid on the field of the small flood-

lighting installation. The opportunity here is enormous. From the top of any tall building, for example, can be counted dozens of water-tanks carrying unlighted advertising signs. The stained-glass-window field is yet almost untouched. Public and business buildings of light material lend themselves admirably to flood-lighting use.

Small flood-lighting installations do not require the services of an illuminating engineer. A very little practice will soon enable the salesman to size up the requirements at a glance



The Baltimore electric light company's new building flood-lighted by eighty-six 250-watt lamps. The wattage per square foot of building surface is 0.45

and to recommend on the spot the proper size of projector, the number to use and the location therefor.

For larger installations it may become necessary to estimate the wattage per square foot needed, with the aid of a table like the following:

Surface Lighted	Surroundings	Watts per Square Foot
Light gray	Light	1.00
Light gray	Dark	0.50
Light red, brown or green	Light	3.00
Light red, brown or green	Dark	2.00
Dark red, brown or green	Light	7.00
Dark red, brown or green	Dark	5.00

The area of the surface to be lighted multiplied by the estimated watts per square foot gives the total wattage required, and this divided by the wattage of the lamp selected determines the number of projectors required.

Too much emphasis cannot be placed on the proper focusing of projectors, declares the report. Projection equipment is of little value if the lamp filament is not placed exactly at the focal

point of the lens or reflector. For some purposes, declares the committee, glass reflectors possess advantages over metal ones, although they are correspondingly more expensive. They are easily cleaned and do not tarnish, and therefore retain their original efficiency during their life. The market, however, affords reflectors in both glass and metal capable of meeting every requirement.

Commercial Aspects of Street and Highway Lighting

ALVAH W. YOUNG, Chairman

C. M. AXFORD	J. P. LYONS
R. C. BACH	W. H. MCBRIDE
G. H. BEAZAN	W. M. MCKNIGHT
C. M. BENEDICT	J. J. MCLOUGHLIN
R. L. BRUNET	G. A. MAU
A. D. CAMERON	W. R. PUTNAM
D. K. CHADBOURNE	UNIT RAISON
H. O. CLARK, JR.	F. RIEBEL, JR.
W. E. CLEMENT	W. H. ROBINSON
C. A. DEAN	J. H. ROSS
C. G. DUFFEE	C. W. RUPRECHT, JR.
G. B. FROST	W. R. SAMMONS
WARD HARRISON	C. E. STEPHENS
M. H. HENDEE	J. V. STRANGE
C. W. JOHNSON	H. A. TINSON
DREW JOHNSTON	O. F. WARE
H. J. KISTER	JOHN WEST
W. F. KOHLBECKER	C. B. YONTS
H. S. LOFQUIST	

THERE is room for improvement in the present methods of securing and following up street lighting business, according to the report of the sub-committee on commercial aspects of street and highway lighting. Revenue from street lighting, it has been found, does not always keep step with the increase in other classes of business.

The committee recommends that central stations make use of demonstration exhibits showing all types of lamps and standards which they are

prepared to install, and issue a booklet which the association should publish for distribution to its members, explaining the purpose of these different types of illumination in terms that laymen can understand.

Street lighting is the only activity of the lighting company which is of interest to 100 per cent of the population, and for this reason alone it is worth more thought on the part of lighting men than it has been receiving. In order to overcome the tendency to install units in haphazard fashion regardless of spacing and equal distribution of light, it is recommended that the entire street-lighting situation of a town be carefully analyzed and a perfect installation mapped out covering spacing and height and size of lamps.

"Make such a lay-out of each lighting district, place it on view in a number of prominent places in business and residence sections, with a note of explanation as to what it is and why it was made, and at the next meeting of the City Fathers present it to them for their guidance. At the proper time extend your suggestions to the open highways, and by careful leading and education good street or highway lighting will result from such a system."

Electric Signs and Electric Advertising

C. S. BULLER, Chairman

R. P. BURROWS	W. H. MCBRIDE
R. CANTRELL	F. N. MURPHY
R. S. COWAN	L. H. NEWBERT
L. R. CRAWFORD	E. S. PELLING
C. J. EATON	E. REID
R. E. HARRINGTON	W. R. SAMMONS
H. A. KELLY	H. A. SIMMONS
E. R. KELSEY	J. THEOBALD
C. LANTZ	M. C. TURPIN
H. I. MARKHAM	A. K. YOUNG

THE committee thinks that the terms "electric sign" and "illuminated billboard" might very well be abandoned for the more appropriate name "Electrical Advertising." The latter is comprehensive and, it is pointed out, the business to which it refers is spread over a wide and profitable field that has not been duly appreciated by the sign builders and the sellers.

Nor do many central stations appreciate the value of the electrical advertising load. The store owner who installs an incandescent sign is usually already using central station

service, which means that it is not necessary to install a new meter, open a new account, render a separate bill or read an extra meter. Compared with current-consuming appliances, figures show that even the average use of the appliance load checks up to only 7 per cent of the sign-hours.

As an antidote for the discouragement of sign-limiting ordinances the committee offers the suggestion that through some such channel as the local merchants' association, the electrical dealers and central station men offer a reasonable restrictive ordinance.

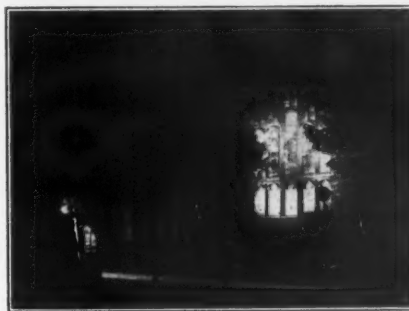
Time payments are practically necessary in order to sell electrical advertising on a profitable scale. Systematic inspection of the signs in operation is also important. Customers will gladly pay for this service and all contracts for current for electrical advertising should be written with a clause providing for such patrol system during the term of the contract.

When advertising is purchased in periodicals, the advertiser is charged a definite fixed amount, and the adoption of a similar flat rate for electrical advertising is urged on the ground that a set price for a specified service will prove more satisfactory to both the sign owner and to the central station.

The candle power of the lamps is worth careful attention. Within certain limits the legibility decreases as candle power increases, but the sign must have sufficient brilliancy to stand out. Flashing letters are effective where a sign is to be read from a distance, but in close-up announcements the flashing should be confined to the border. Wherever possible, however, motion should be incorporated in every sign in some way, since such motion is one of the best of eye-catching devices.



Improved appearance of street resulting from co-operation of lighting and trolley interests in erecting combination posts



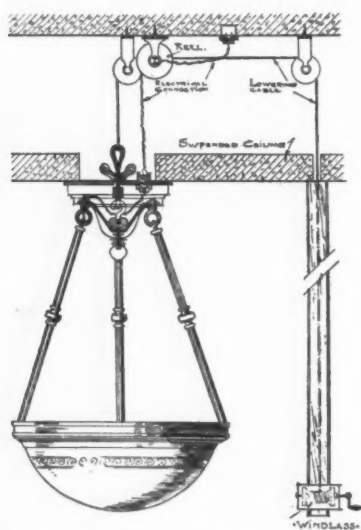
The field for flood-lighting stained-glass windows is almost untouched, the committee on outdoor-lighting points out. The picture shows how two 500-watt units can be used to reveal new beauties of a church window to the congregation at a night service

Commercial Aspects of Lamp Equipment

O. R. HOGUE, Chairman

K. E. ADAMS	O. L. JOHNSON
J. H. ALLEN	P. O. KENNEDY
F. D. BEARDSLEE	J. J. KIRK
S. B. BURROWS	C. L. LAW
E. L. CALLAHAN	A. H. LORING
R. C. CLOSE	H. C. MEREDITH
BURLEIGH CURRIER	W. R. MOULTON
J. F. DERGE	A. B. ODAY
A. O. DICKER	F. C. PIATT
F. H. GOLDING	A. A. POPE
WARD HARRISON	G. B. REGAR
S. G. HIBBEN	J. L. STAIR
J. B. JACKSON	W. A. WOLLS

THIS report takes the form of a composite catalog for convenient reference of central station salesmen, and covers largely the new equipment for direct, semi-indirect and indirect lighting. For specific recommendations as to the illumination re-



Fixture lowering device for fixture-dealer's display room

quirements of different classes of installation, methods of locating outlets and general layout considerations, the committee has very properly referred the reader to the N. E. L. A. Salesman's Handbook, where this information is fully and clearly given.

Reference is made to the necessity, when using the new Mazda C lamps, of seeing that they be equipped with glassware or reflectors designed for the purpose, and that the gas-filled lamps be not substituted for vacuum lamps in fixtures which are adapted to vacuum lamps but are inadequate for full protection of the eyes of the users when fitted with the more brilliant gas-filled lamps.

Photometric investigations with

prismatic glass reflectors and enameled steel reflectors are reported, showing the wide differences in light distribution with reflectors designed for use with vacuum lamps, when used with the gas-filled lamps. Comparison is also made with the more advantageous light distribution secured with these lamps when equipped with the proper reflectors.

For semi-indirect lighting it is recommended that the glass be as dense as possible, transmitting a small percentage of the light only, under which condition the ceiling becomes the real source of illumination, its large area permitting the use of more light without having a very bright source in the line of vision.

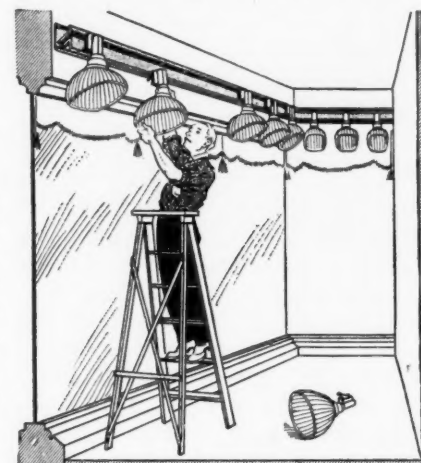
Central stations are strongly advised to do more good-lighting educational work to forward their own best interests. The successful salesman sells illumination, and not lamps and fixtures. He should have a knowledge of the fundamentals of illuminating engineering and, for work in a great many interiors, should be familiar with the demands for decoration as well. It is necessary that he thoroughly satisfy the customer as to his recommendations for a good installation without overloading, but particularly must he use care to see that the installation is adequate. The customer's dissatisfaction due to poor lighting would probably cause him to complain of the size of the lighting bill, while, on the other hand, good lighting will cause him to overlook some increase in the operating cost.

It is pointed out that much of the work of the central station lighting salesman is of assistance to electrical contractors in getting business; that the salesman, however, is serving the company well if he induces customers to improve their lighting installations.

It is recommended that in organizations of any size there should be at least one man to devote all or most of his time to the study and practice of up-to-date illumination. This man should be informed on developments of lamps and fixtures so as to pass this information along to the public as well as to the regular salesmen in his company.

It is interesting to note that the larger companies have found that whereas a few years ago they deemed it satisfactory to have one man specializing in illuminating engineering, now since the customer recognition for this work has grown, it has in

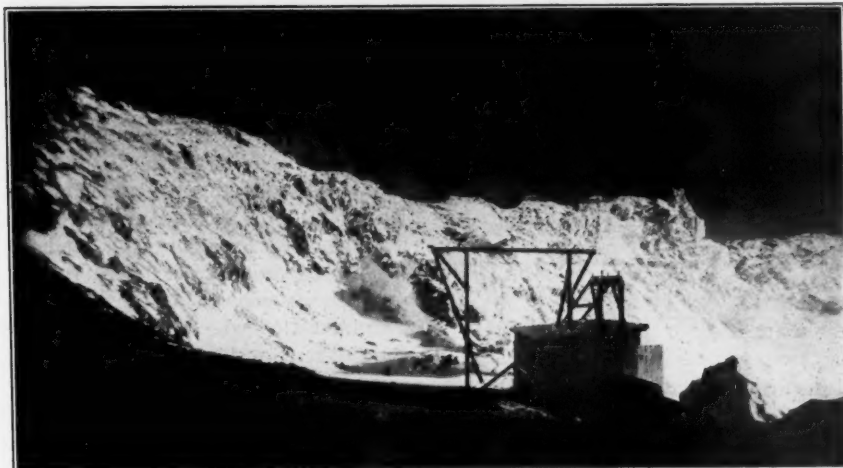
many instances been necessary to add to the organization to the extent of having a specialist on each class of business—one on industrial lighting, others on stores and public buildings, on residence work, etc. An alternative, as practised by one of the larger companies, is to use men in this department who are fitted through training or experience to handle a more general class of work, assigning these men to definite districts so that an engineer interviewing a factory manager contemplating a large industrial installation can also advise him of the lamps to use in his home. This method also results in having each representative responsible for the lighting in his district. He can then inspect lighting installations at night and follow up those cases that require attention. Such a department will do wonders in improving lighting conditions and making friends for the com-



The "movalite" system employs two bar conductors which, properly protected by insulating guards, permit contact with the movable receptacles at any position along the window.

pany, as well as saving the company a great deal of money in the settlement or prevention of complaints.

Detailed reference is made in the report to equipment for flood-lighting; indirect lighting portables and stand lamps; show-window and interior signs; special reflectors for billboard lighting; the construction of semi-indirect and indirect lighting fixtures to simplify maintenance; lowering devices for large fixtures; equipment for color matching; translucent glass bowls to be suspended below the bulbs of gas-filled lamps when these lamps are used for direct lighting; bank screen lighting with metal cornice trough fixtures, both direct and indirect; wall-case lighting equipment;



Mining raw asbestos by flood-lighting. This picture of the excavation at the Thetford Mines, Quebec, reproduced from the report of the committee on outdoor lighting, shows how work is now being carried on by night as well as day to get out raw asbestos

reflectors for show-window lighting; all of which are described in a manner to be useful to the central station salesman.

A particularly valuable innovation in this year's report is the reference by name to the manufacturers of the devices commented upon. This makes the report more valuable for use of the commercial men in the industry, men who are usually too busy or otherwise lack opportunity to know of the manufacturers of meritorious devices.

Report of the Lamp Committee

FRANK W. SMITH, Chairman

DOUGLASS BURNETT

WALTER CARY

E. R. DAVENPORT

W. W. FREEMAN

W. H. JOHNSON

G. F. MORRISON

J. T. MOUNTAIN

R. M. SEARLE

F. S. TERRY

THE aggregate sales of incandescent lamps for domestic use, excluding miniature units, reached during the year 1916 the unprecedented total of 145,000,000, approximately 31 per cent more than the production for 1915, which was 110,000,000 lamps. This extraordinary demand has involved tremendous problems in manufacture, and in view of the general condition of the material market it is felt that the relatively prompt shipment of lamps, compared with other commodities, has been very satisfactory. During 1916 the Mazda sales constituted 84 per cent of total lamp sales, the total carbon and gem sales having fallen to 16 per cent, although only ten years ago carbon lamps constituted 99 per cent of all sales.

Attention is called to the fact that a number of electric lighting companies are still furnishing carbon lamps, in some cases on free renewals, despite the recommendations of the N. E. L. A. lamp committee from the outset that the public be fully informed of the advantages of using the more efficient lamps as these became available. Extracts from publications of the Bureau of Standards at Washington, bearing on the use of tungsten units by householders, are reproduced in the report, which quotes among other statements the rather striking reminder that "the cost of a lamp is reckoned in cents, but the cost of the energy to operate it during its life is a matter of dollars."

A great piece of constructive work has been done by the lamp committee this year in analyzing the merchandising conditions under which American electric lighting companies fur-

nish lamps to their customers. Questionnaires were sent out to all the member companies of the N. E. L. A. and 40 per cent replies were received. These indicate that by far the majority of the companies reporting handle lamps only on a strict merchandising basis (mostly selling at list prices). The replies received are summarized on the following page.

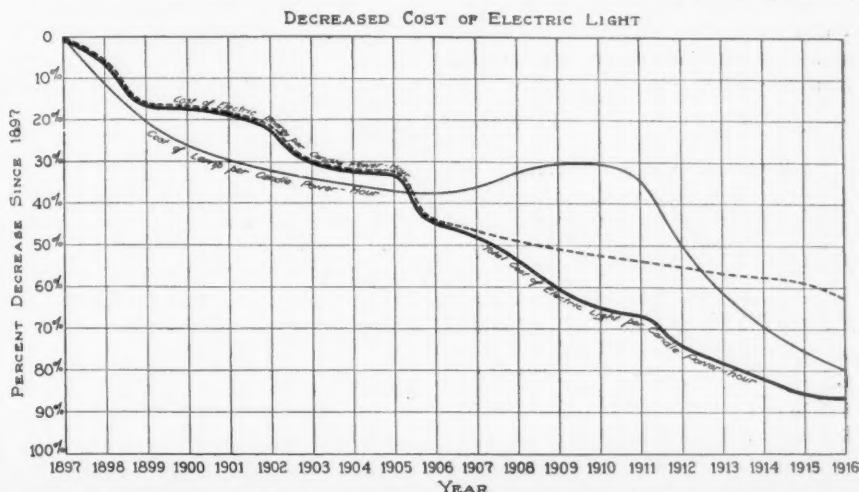
The individual figures have been thoroughly analyzed and interpreted, and a complete chart has been prepared showing, in a most ingenious way, the various conditions existing in the case of the companies reporting.

Considerable progress has been made during the year in the development of lamps for focussing purposes, such as motion-picture projection, flood-lighting, stereopticon use, locomotive headlights, etc. Early in the fall of 1916 a line of miniature Mazda

Mazda C-2	Mazda B	Mazda C
75 watts	60 watts	75 watts
100 watts	100 watts	100 watts
150 watts	150 watts	150 watts
200 watts	2-100 watts	200 watts
300 watts	250 watts	250 watts
50 watts	50 watts	400 watts

lamps imitating fruits, flowers and animals was put on the market, and during the four months prior to Christmas more than 1,000,000 were sold.

Mazda C-2 blue-tinted-bulb lamps have now been standardized for 110-volt use in the 75, 100, 150, 200, 300 and 500-watt sizes. The list prices of these lamps are about 20 per cent higher than for the same wattage type C lamps. Their use has been successful in show windows, art galleries,



How the cost of electric light has diminished year by year. The curve takes into account the decreasing rates for electricity, the increased efficiency of new illuminants, and the cost of making renewals

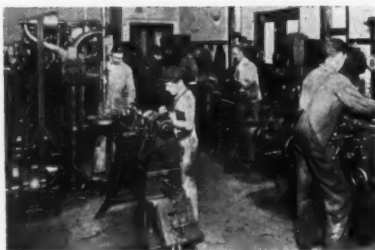
Company Policy	POPULATION						Total
	Less than 1000	1000-5000	5000-10,000	10,000-50,000	Above 50,000	Indeterminate	
Free renewals only.....	0	0	1	1	0	0	2
Merchandising only.....	112	116	23	16	2	0	269
Free renewals and merchandising.....	15	56	25	28	8	0	132
Do not handle lamps.....	4	12	2	3	0	13	34
Give renewals—make lamp-service charge.....	0	0	0	2	2	0	4
Total.....	131	184	51	50	12	13	441

store lighting and factories where the whiter light is desirable. Roughly they can be substituted for other lamps about as the table (p. 215) shows.

An interesting and educational supplement to the report of the lamp

committee was to have been the exhibit at Atlantic City outlined in our last issue, and it is yet hoped to make use of the displays prepared for that purpose in some similar exhibit in the near future.

Sale of Power and Industrial Electric Heating



REAMS of useful and important data are included in the reports of the Power Sales Bureau, but for this detail information the reader is referred directly to the papers themselves, which will be issued shortly. Trends in the field of power applications are indicated, however, by the following abstracts of the particular selling points covered. Industrial electric heating is taking more and more the attention of the electrical industry as its applications widen throughout all industry, while the rapid growth of the electric-furnace load only illustrates anew the continuous revolution of means and methods through which modern industry is ever passing.

Power Sales Bureau

GEORGE H. JONES, Chairman
C. H. STEVENS, Vice-Chairman
H. H. HOLDING, Secretary

DURING the past twelve months the Power Bureau was specialized on "all-year" service in answering inquiries concerning motor-application and power sales problems. In seventy-five cases already such service has been rendered, and the bureau is rapidly accumulating at headquarters data on a wide range of power subjects.

All the principal industries using central station power have been so classified that the secretary can, on quick notice, state where data on any particular line of business can be secured, giving the name of the bureau's representative who can furnish the desired information. In this way, members having a particular problem can telegraph the secretary and quickly get in touch with responsible members of the bureau who can furnish the information desired.

Electric Steel Furnaces

E. L. CROSBY, Chairman

THE rapid growth of the electric steel industry in the United States during the past year is ample evidence of its importance in the industrial development of our country. Up to March, 1917, 158 electric steel furnaces of various types, having a total capacity of approximately 1,000,000 tons of metal per year, had been installed or contracted for. The annual energy consumption of these furnaces is about 600,000,000 kw.-hr.

Central-station power men are familiar with the arguments in favor of the electric furnace. More homo-

geneous, more thoroughly deoxidized, and chemically purer steel may be produced by this method than by any other. High-grade castings and superior alloy steels may be produced for less than the same quality of material by any other process. The heat input, read in current value, is continuously apparent and under control, the condition of the slag and atmosphere permits of close observation, and the atmosphere is inherently reducing, all of which is conducive to the production of good steel.

The committee emphasizes, however, the necessity of practicing good judgment in the effort to secure electric steel furnace business. It is the opinion of the committee that several installations have recently been made which will find difficulty in competing when the steel trade again becomes normal.

The situation is not as serious to the steel manufacturer as to the central station since the steel maker is getting an exorbitant price for his product, enough in some cases to retire his entire investment in less than one year, while the central station, purchasing equipment in the present high market and quoting very low power rates on the other hand, is very likely to find itself in an extremely unhappy situation a little later on.

Industrial Electric Heating

H. O. LOEBELL, Chairman

C. W. BARTLETT
H. FULWIDER
T. R. HAY
C. F. HIRSHFELD
G. H. JONES
H. J. KUNZ
L. H. NEWBERT
W. S. SCOTT
A. H. TRACY

THE great practical usefulness of electricity in industrial heating applications and the future promised by this growing field, will warrant the appointment by central station companies of any size of a man to study and capitalize upon the local opportunities for industrial heating service.

It is essential that serious consideration be given to the problems which industrial heating creates; often it is necessary to make a thorough study of the process involved, not only from the standpoint of its electrical heating applications, but with the idea of changing the whole cycle of operations.

The last year has seen considerable development in industrial electrical

heating equipment. New and better types of heating units for space heating have been brought out, as well as new units for such purposes as melting metals of low fusing points and for heating various liquids. Units of this type are applicable to almost any operation where the temperature demand is not in excess of 1600 deg. Fahr.

The air tempering furnace is a newcomer this year, says the report. "A strong feature of this furnace is that it permits the formation of the tempering colors which every man in the business of tempering recognizes, and he does not have to learn a new system. It also prevents the formation

perature control is necessary and with electricity this control is so easily made automatic that with very slight variation a constant temperature can be maintained indefinitely. This leads to great saving as it eliminates the human element and the possibility of error."

Electric Heating of Brass Furnaces

By C. F. HIRSHFELD

MUCH valuable technical data for the power salesman who is undertaking to supply electrically the metallurgical and heating requirements of local industrial plants, are contained in this paper, which considers the application of electric heating in the metallurgical fields outside of the iron and steel industry, under the following headings:

1. Reduction of ores to obtain metals.
2. Melting of non-ferrous metals.
3. Making and melting of non-ferrous alloys.
4. Heat treatment of metals and alloys.

Particular attention is given to electric brass melting because of the great interest now manifested by the brass interests and because of the wide distribution of this industry.

At the end of the text are given tables of useful physical data, applicable to the non-ferrous field, such as melting and boiling points, specific heats, latent heats of fusion and vaporization.

A bibliography is also included for the benefit of those who wish to make further investigations in the application of electric heat in the field of non-ferrous metallurgy.

The fact that the thermal efficiency of heating by combustion decreases rapidly with increasing temperature is given as argument for early electrification of some high-temperature processes. Recent work has also shown that at lower temperatures considerations other than thermal efficiency may be of equal or greater importance, justifying electric heating at such temperatures also.

It is pointed out that in the early development of nearly every notable field of electrification other means than electricity was "conclusively" shown to be cheaper.

Municipal Pumping

By A. B. GRUBMEYER

At the present time the total power requirements of the municipal water supply systems in 155 American cities of 30,000 population and above is about 350,000 hp. Of this amount only 55,000 hp., or about 15 per cent, is electric motor drive. While there are no statistics available on cities and towns below 30,000, it is safe to say that the total in the country used for water supply systems is over 1,000,000 hp.

To a central station man these are interesting figures; they at once indi-



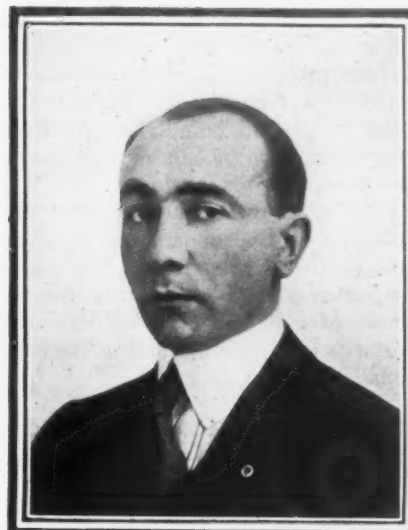
GEORGE H. JONES
Chairman Power Sales Bureau

of scale or oxide and turns out clean work.

"Furnaces for various forms of heat treating are being improved as well, and a large number are already on the market, working satisfactorily. Later types are giving results comparable with the development, which has been very rapid."

Electric heating has many advantages which are distinctive. The report points out in particular that "in heating electrically the quantity of heat liberated is entirely irrespective of temperature, or can be made so. This permits the great flexibility of application which is so desirable and which is possible only with electric heating. Furthermore, any atmosphere desired can be maintained and the heat liberated where wanted.

"In practically every operation, tem-



H. O. LOEBELL
Chairman Industrial Electric Heating Bureau

cate the big field that is open to the electric companies for development along this line. But these figures do not include all the possibilities of municipal pumping, for with the installation of filtration plants, municipal sewage systems and high pressure fire-service stations an even greater field is open, and opportunity awaits the development of this business. At present, the surface has just been scratched and it is up to the central station people to put forth further efforts to secure this most desirable type of business. The field exists and only lacks cultivation.

Mr. Grubmeyer's forty-eight-page paper describes and illustrates a number of electric pumping installations, citing operating data of value to the power salesman setting out to get this business.

Replacing Isolated Plants

L. LUNDGAARD, Chairman

THE power salesman who goes into isolated-plant work must be able to undertake a complete engineering investigation of the prospect's power requirements and submit to him a report showing the merits or demerits of all proposed methods of furnishing power. The preparation of such a report is undoubtedly the most important part of a power salesman's work. Very often, however, only a small part of the data used in making up the report should be submitted to the power prospect. A report that is too complex and lengthy will, as a general rule, be superficially studied by the power prospect and not fully understood. A report should state briefly and tersely all points bearing upon the application of this or that source of power to his business. While a power sales report may be brief and not give all the fundamental data employed in its preparation, the power salesman should always use the utmost care in the study of the consumer's requirements and in the compilation of cost figures.

Electrochemical Division

CHARLES J. RUSSELL, Chairman

IN the belief that best information and data relating to the use and supply of electrical energy for electrochemical processes can be developed by co-operation with those connected with electrochemical developments, the American Electrochemical Society was requested to join with this organization through the appointment of a joint committee.

The Power Sales Bureau is interested in securing complete information on various processes requiring electrical energy, including authentic data as to rates necessary to permit the commercial development of such processes. The electrochemists are interested in the question of the advantages of given localities from the standpoints of power supply, transportation, and in some cases, of raw materials.

A thorough investigation of the power possibilities is, in the view of the committee, of prime importance,

and as a first step a questionnaire has been prepared for the purpose of obtaining definite ideas as to conditions which can be provided by central stations for this class of energy supply. When this information has been gath-

ered and matched up against the requirements of available processes it is felt that the possibilities of the electrochemical field for the output of central stations will be fairly well determined.

The Salesman and His Work



INVITING fields for further research and study have been opened up by several of the original investigations begun this year by Commercial Section committees. One of the most interesting among these subjects is that entered upon by the Committee on Compensation of Salesmen, whose valuable report is abstracted below. The whole subject of salesmanship methods and commercial contact with the customer is one demanding careful study and also one on which the electrical man—central-station salesman, contractor or dealer—needs, in general, all the light he can get.

swers to which are analyzed in the report, while point by point the committee has made its definite recommendations, with the purpose of eliminating present sources of irritation to the public and the performance of unnecessary work now found too frequently enmeshed in traditional red tape.

The committee recommends liberal credit restrictions so that connections can be made before credit approval is secured where haste is important. The salesman should make the credit inquiry, and where deposit is required it should be returned in one year, and in the case of reconnection past record should be considered sufficient, or credit data secured from another central station. When a new consumer moves into wired premises that have been vacant, the meter should be read by the salesman who takes his contract.

Particular attention is given to collection methods and how many notices should be sent out and how many calls made by the collector before more drastic action is to be taken. Great difference of opinion is shown in the replies. The committee recommends that the use of collection agencies be avoided and that the cutting-off of customers should be handled with the greatest care and thoughtfulness, making no disconnections on Saturday or after 4 p. m. The cut-off men should be authorized to make collection or to receive even a part payment and leave the service in, making no charge for reconnections, says the committee, which feels that the cut-in should be made on the same day or surely on the day following. Interesting advice is given as to the treat-

Commercial Service and Relations with Customers

R. F. BONBALL, Chairman

L. A. COLEMAN
F. F. KELLOGG
L. F. MOWRY
L. H. NEWBERT
M. C. OSBORN

F. H. PATTERSON
THOMAS W. PETERS
HARRY M. SIMKINS
CLARE N. STANNARD
HAROLD WRIGHT

A MOST interesting and important work has been undertaken by this committee; in short, to try out the present practice throughout the country affecting the direct relations between the central station and the consumer in the handling of applications, credits, meter reading, collections and complaints. So much depends upon the friendliness of this constant contact, that the committee feels the need of developing a practical handbook on this subject, and to afford the nucleus for this compilation has sent out to a large number of companies through this country a questionnaire, the an-

ment of habitual delinquents and the collection of unpaid balances from disconnected customers.

The question of complaints is dwelt upon at length with the recommendation that this function be transferred to a special service department, which will look at the matter with sympathy and fairness to the customer, so that adjustments may be adequate and just to both the company and the consumer. Definite suggestions as to how adjustment should be made are gleaned from definite experience reported, both as regards the arbitrary settlement of abnormal readings, special meter tests and the giving of fuses without charge. In the main the committee indorses the liberal application of "good judgment" in each case, and advises that the customer be given the benefit of the doubt. This is a most interesting and valuable report, well worth a little study.

Compensation of Salesmen

C. J. RUSSELL, Chairman
F. D. BEARDSLEE O. R. HOGUE
P. J. DENNINGER L. R. WALLIS

THE work of this committee in attacking the question as to what method of compensating salesmen has been found to provide the greatest incentive to production and profit is of very great importance and interest, and it is unfortunate that the confidential nature of the data which has been compiled has made it seem unwise for the report to more than de-

fine the fundamentals of existing plans, reserving the actual findings for the use of member companies who are interested in improving their own methods of compensation.

The committee comments on the diversity which now exists in practice and opinion, and urges the importance of a thorough study of the questions.

The straight-salary method, it finds, is in use to greater extent than any other plan. The essence of the opinions expressed in favor of this system is, primarily, that many elements outside of the question of daily sales enter into the work of the salesman, and that the value of this other service cannot be measured in dollars and cents. Some estimate the proportion of time given to actual sales at from 40 to 50 per cent, the balance being devoted to holding business, commercial service, and advisory work. It is quite generally felt, moreover, that a salary basis of payment appeals to the higher grade of salesman as being a more dignified and permanent arrangement than any commission scheme.

Few electric companies, it seems, are operating on a straight commission basis for other than appliance sales. The feeling is quite general that if a commission plan can be established on a proper basis such a method of compensation would be the best for the salesman as well as for the company employing him.

However, such a method without handicaps is probably impossible of application in the ordinary territory

covered by our commercial organizations. The determination of a basis is a comparatively easy matter but the development of a system of handicaps involves difficult problems. Almost any solution of these problems lacks permanence, due to district growth and development, and these features lead to friction and dissatisfaction unless carefully watched and checked up against results.

Modifications of the straight commission basis have been applied by many companies. These are principally along the line of a small salary plus a liberal commission or of a liberal salary plus a small commission. The first of these methods represents what is practically a drawing account of such an amount as to represent a living wage, to which there is added a liberal commission upon actual sales of service or appliances. The second plan of a liberal salary with a small commission on completed sales, is equivalent to a straight salary method of compensation with an incentive to the salesman to increase his earnings to the utmost of his capacity.

The salary item in both the plans of compensation mentioned may be subject to increase by reason of years of service, and may differ in the various classes of work to which salesmen are assigned, according to the character of salesmanship required in each field. The commission item may be controlled by handicaps based on the characteristics of the district in which the salesman operates.

A modified system of commission



The N. E. L. A. session room at New York made ready for the historic war convention of the association on May 9 and 10

allowance is found in various methods of bonus payments divided among those salesmen making the best records in sales. The working out of a model schedule of compensation upon a straight or partial commission basis involves the solution of complex problems, but some of the complete plans of compensation now in the hands of the committee illustrate how new-business efforts may be controlled, directed and fostered with satisfactory results to all concerned.

The committee feels that any attempts at academic discussion of the subject would be of little real value, but it is confident that the accumulation of data with complete figures, followed by a careful, systematic study of results, will place the Commercial Section in a position to render a valuable service to executives or sales managers.

Additions to Electrical Salesman's Handbook

A NUMBER of sections of the Salesman's Handbook have been added to by the 1917 committee, headed by R. H. Tillman, without changing the form or shape of the volume.

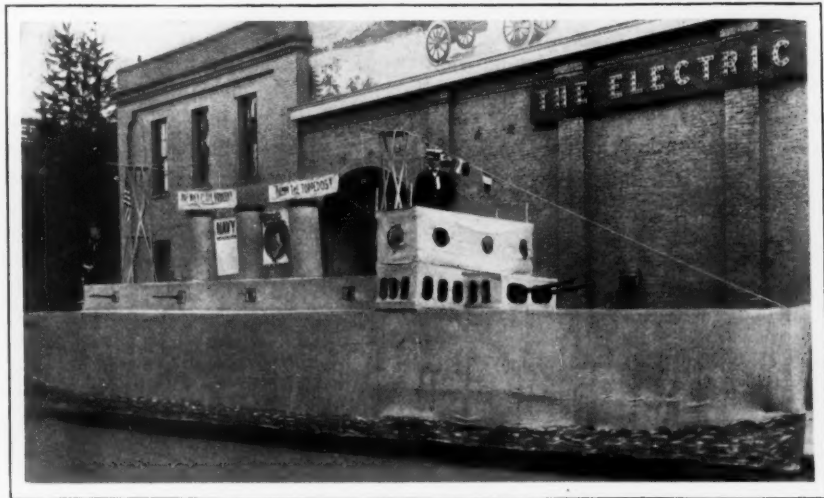
The lighting section, for example, has been materially increased. One phase of lighting that had hitherto been somewhat neglected in the Handbook was industrial lighting. As a result of the efforts of the Lighting Sales Bureau, data on this class of work have now been added. This material includes valuable information on typical industrial installations, and will be of special assistance to those salesmen who have to do with industrial lighting.

The section on power installations now includes several monographs on types of motor equipment, and data on isolated plants, air handling, and refrigeration.

The section on electric heating has been added to and brought up to date. It includes new data furnished by the manufacturers on electric ranges and industrial heating, and describes several typical installations of various forms of electric heating.

In view of the increasing size of the handbook, the committee suggests that the volume be divided into a lighting section, a power section and an electric-vehicle section, individual sales-

Electric-Truck Dreadnaught That Is Winning Navy Recruits



The Jovian League of Memphis, Tenn., designed and launched this leviathan of the asphalt, whose keel is one of the big electric trucks of a local cotton factor. Chief Gunner's Mate Leonard and Boatswain's Mate Starnes of the local recruiting station have aroused much interest in recruiting by navigating this imposing craft through the streets of Memphis. The dreadnaught was built under the direction of Chief Jovian Naval Constructor Carl Chapin, who is in charge of commercial work for the Memphis electric-lighting company.

men to receive appropriate combinations of these sections, while complete Handbook copies will be on file with member companies.

Education of Salesmen

FRED R. JENKINS, Chairman

G. G. BOWEN	F. A. LEACH, JR.
GEORGE BOYS	G. J. LEIBMAN
W. W. BRIGGS	W. H. LINES
J. A. BRITTON	B. J. LONG
A. W. CHILDS	R. B. MATEER
RAWSON COLLIER	W. T. MCINTYRE
F. A. COUPAL	G. B. MCLEAN
F. A. DELAY	W. R. MOULTON
J. F. DERGE	M. C. OSBORN
H. W. GARNER	C. E. ROBERTSON
T. P. GAYLORD	C. R. RUDY
H. J. GILLE	J. B. SEAMAN
HARRO HARRSEN	F. J. SILL
L. C. HASKELL	O. H. SIMMONDS
M. H. HENDEE	W. M. SKIFF
G. R. JONES	C. N. STANNARD
C. M. KALTWASSER	J. M. STRASSER
T. H. KETTLE	L. R. WALLIS
H. R. KING	R. F. WHITNEY
J. D. KUSTER	C. E. YACOLL

THE committee reports a very successful year in the work of its two correspondence courses, the Commercial Engineering Course and the Course in Practical Electricity.

The Commercial Engineering Course, while particularly adapted for men employed in the commercial departments, is at the same time quite broad in its scope, and it has been found that a large number of subscriptions are from men employed in other than commercial departments.

The Course in Practical Electricity

is a fundamental course for employees not having an electrical education, and is intended for employees of all departments who desire a foundation from which to specialize in any branch of the business. The N. E. L. A. executive committee has recently ruled that beginning July 1 all correspondence courses be open for enrollment only to individual members of the association, with the exception that employees of member companies not themselves members of the association may enroll upon payment of an additional fee of \$3 a year for each course.

The Commercial Engineering Course as at present organized is composed of the following lessons:

- 1—Salesmanship
- 2—Selling Campaigns
- 3—Prospects—New Business
- 4—Advertising
- 5—Merchandising
- 6—Relations to Customers
- 7—Meters and Metering
- 8—Rates
- 9—Illuminants
- 10—Cost of Lighting
- 11—Principles of Illumination
- 12—Lighting Practice
- 13—Electric Signs
- 14—Wiring
- 15—Motors
- 16—Sources of Power
- 17—Isolated Plants

There are in all 1358 central station employees who have completed and are now engaged in this course.

The Course in Practical Electricity was inaugurated only on Jan. 1 of this year and on March 1 had already secured 466 subscribers.

GUARDING PROPERTY WITH THE FLOODLAMP

How the Contractor Can Sell and Install Flood-Lighting Equipment for Effective Night Protection of Factories, Railroads, Power Plants and Public Buildings

By J. A. SUMMERS

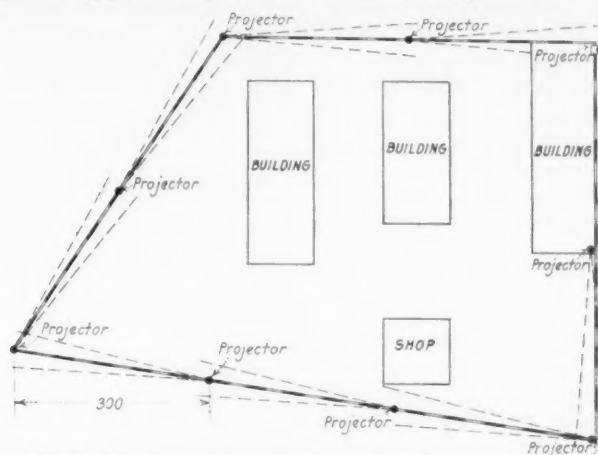
WAR time conditions have rendered necessary a large amount of policing in the protection of factories, mills, power plants, railway structures, yards, bridges, tunnels and public buildings. As has already been pointed out in these columns, the electric floodlamp is playing an increasingly important part in this work, not only in aiding the men on guard duty, but in decreasing the numbers of the guardsmen needed. This field of police lighting is one that offers large opportunities to the electrical contractor at this time and affords him an opportunity to render real public service.

For protective flood-lighting two general types of projectors are employed. One throws a long concentrated beam, to reach distant points, and the other gives a widespread illumination over a large area, for lighting at short distances.

For lighting the piers and foundations of bridges flood-lighting projectors provide an easy method of throwing the light where needed from the shore. This is the method used around the bridges crossing the East River at New York, where General Electric L-1 projectors, equipped with 400-watt Mazda flood-lighting lamps were placed at strategic points. In such lighting the projectors are best mounted about 10 ft.

high at each end of the bridge, and the beams directed along the foot of the piers. An extra projector mounted on a trunnion and swivel should be placed at the guardhouse, so that any boat approaching can be

The projectors are equipped with 400-watt Mazda flood-lighting lamps and spaced about 300 ft. apart. This makes a ring of light around the plant, through which no one can pass without being visible. Further, if all



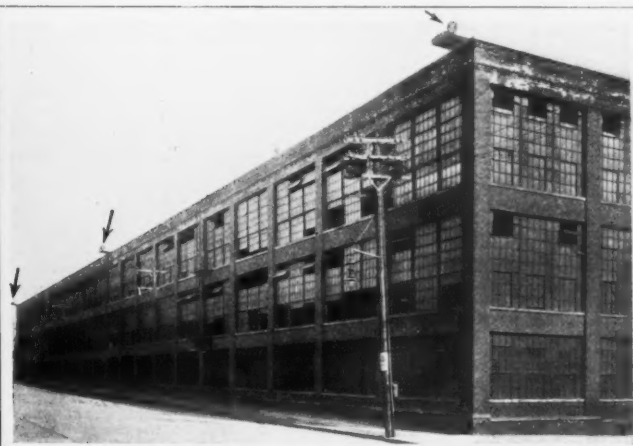
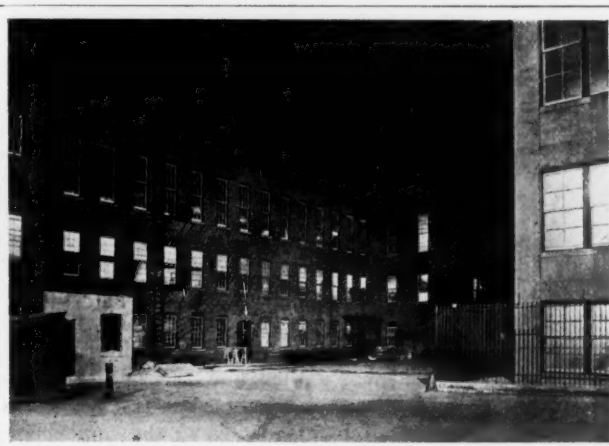
Flood-lighting projectors mounted on the factory fence afford protection against night prowlers

picked up and kept in view by following it with the beam.

Many large industrial plants have a high fence around the buildings and grounds, and are at present furnished with guards patrolling inside the fence. One of the successful methods that is being used for protecting such plants is to mount flood-lighting projectors on the top of the fence, directing the beam parallel to the fence as shown in the sketch.

the beams are pointed in one direction there will be no annoying glare in the eyes of the patrols. Where the buildings are on the street line, the projectors may be placed on small platforms built out from the roof. The beams should strike the sidewalk about 200 ft. away.

Factory yard lighting has also received much attention, excellent results being obtained by using the ordinary flood-lighting fixtures.



The lighting of the factory yard shown at the left was accomplished with one wide-angle projector mounted on the roof. When buildings are on the street line, projectors may be mounted on the roof as indicated by the arrows

LAYING OUT THE ELECTRIC SHOP

Some Ideas on the Equipment and Arrangement of Retail Electrical Stores Gained from Experience in Planning a Succession of Such Salesrooms

By GEORGE E. DUNN

Public Service Company of Northern Illinois

EVERY time we put in a new store we find, when it is finished, a number of things we would do differently were we to equip another. These later-discovered opportunities for revision do not arise because we do not plan each store carefully, but rather because the electrical merchandising business is so new; it has no standards. There are few guiding precedents. So, despite our best efforts at planning, the finished store is never perfect.

But each time we build we learn. In the last year the Public Service Company of Northern Illinois has equipped four stores in four of its many communities; and it is the purpose of this article to tell how we planned three of those stores (see Frontispiece, page 192), how we carried out the plans, and what we learned by doing the work.

The broad principle on which each store design was started was that there must be a place for everything the store would contain. Now, that sounds very simple. But when buildings are designed by architects who

know nothing about what they will contain later, it is not so simple as it sounds. Moreover, few architects have had commercial training. So it is necessary to take a floor plan and from it to figure out how the floor space and wall space can best be utilized.

Generally, in the smaller cities which our company reaches, the problem is not one of using each inch of floor space, because rents and real estate are not as a rule high in price. But the layout of the windows and openings gives trouble in getting sufficient wall space for shelving. This condition often leads to the necessity of changing the interior of the store-room itself.

Fundamentally the equipments and arrangements of our stores are alike. Each has a counter, the lower front panel of which acts as a display case for sockets, receptacles, switches and small devices. This arrangement is considered good because this display gives the customer something to which he can point and say, "I want

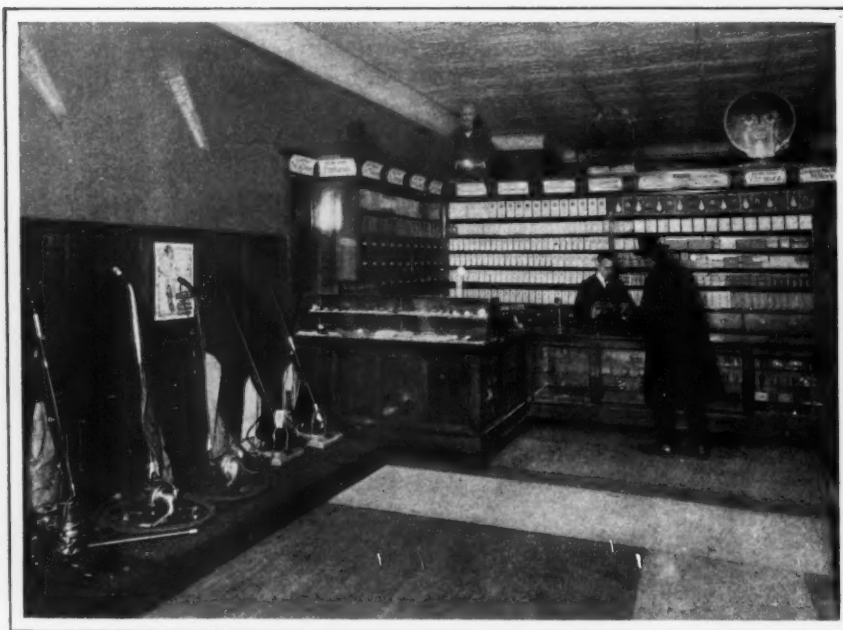
one of those," when he does not know the name of the device he wants. Perhaps later we will even come to numbering each device in this showcase to save the customer embarrassment. This will also make it more convenient for the salesman, who sells the goods called for from a stock contained in drawers behind and above the counter. The number on each device would, of course, correspond with the number of the drawer in which the stock is kept.

This method of display is valuable for the further reason that it occupies space that is not practically usable in shelf room under the counter, because shelves the full depth of the counter are too deep for convenience. Moreover, it is wise to provide locks on the sliding doors to these counter-front cases, because every child tries to get hold of some of the shiny brass inside.

NICKELWARE ALL UNDER GLASS

Each store also has enough of the ordinary type of showcases and enclosed shelves so that all nickeled ware, except electric irons, is displayed under glass. This plan of showing percolators, toasters and chafing dishes when they are for sale is, I know, often subjected to criticism. But I believe the store in the small city cannot afford to display such goods in the open. Especially in an industrial community like the Chicago territory the finish on such goods deteriorates rapidly, and the losses from "shop-worn" goods are very high.

I believe it is possible to arrange these goods in showcases so that they will be as attractive as they are in the open. We do this by dressing one showcase with percolators—nothing but percolators. We put enough of them into the case to create the impression that we have a stock. Of course we do not crowd them into the case; we arrange them according to style and size. The machine type are kept together and the pot type are also segregated. We treat toasters and chafing dishes in the same manner. We believe this gives not only an effective display, but that it also



This picture will bear detailed study. Note the molding that holds the neatly lettered placards, "street car-card" fashion. Pennant signs on the walls also give a touch of decoration. There is advertising value in the openly displayed lamp cartons. Advantage is taken of an otherwise useless counter space to make an attractive flash-lamp and heating-pad display. Manufacturers' advertising cut-outs and artificial flower boxes have been judiciously used to break the monotony of the upper trim.



Each of the company's electric shops has one of these special counters, the lower front panel of which serves as a display space for sockets, switches, receptacles, and the like. With this arrangement the customer is given something he can point to and say, "I want one of these," thus saving time and embarrassment for both clerk and patron when the latter "knows what he wants" but doesn't know the name of it. As an example of attention to detail, note how the white showcase feet enhance the general effect.

makes for the convenience of the customer and salesman; and with this plan we believe we can sell just as much goods and at the same time avoid the losses that come when slow-moving goods are displayed in the open.

Irons are the one exception to this rule. In each store these are shown on a table that stands 30 in. high. The exception is made because irons do not deteriorate quickly and because they move more rapidly than the majority of the stock. We follow the same general display plan with the irons in that we always have the table-top full of them. If we are selling three brands we have perhaps a dozen of one kind grouped in the center of the table and a like number of each of the other kinds at the ends. When a high-priced iron is shown alongside a lower-priced one it is easier to sell the high-priced iron—the customer can be made to see the difference.

PERSISTENT ATTENTION TO DETAILS ABSOLUTELY ESSENTIAL

These ideas on how-to-show-goods-when-you-want-to-sell-them are the basic ones that we have in mind when we plan a store. The same ideas are used in all stores. The main difference in the stores is in elegance of the fixtures and the finish. There are details to be looked after, however, which

are every bit as important as the basic principles.

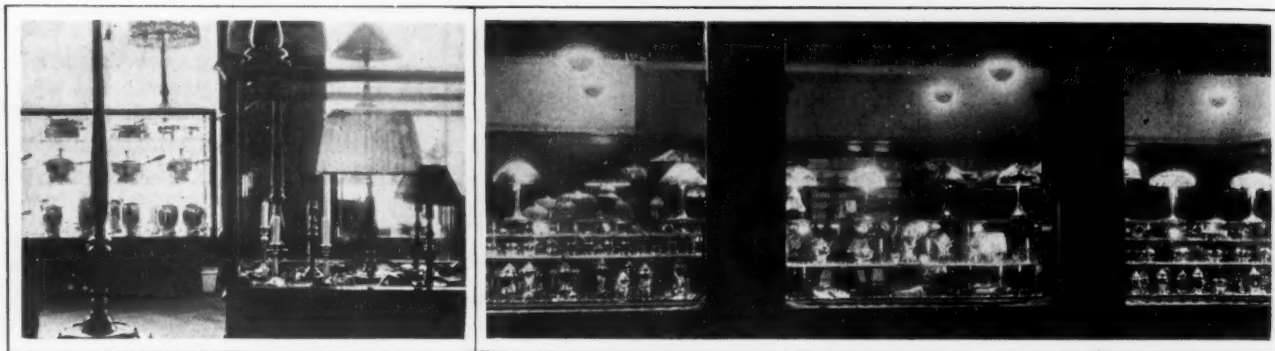
For instance, we formerly built our wall shelving with a ledge projecting from it at about the height of showcase tops. The theory was that this provided a convenient place for a salesman to set things temporarily. We found that it was too convenient; the

salesmen were always setting goods on it and forgetting to put them back in place. In consequence this ledge, in all of our recent stores, has been omitted. We find the idea is a good one because it compels salesmen to keep wall cases fully dressed; and at the same time the amount of room back of the counter is increased by the width of the shelf.

Another idea in wall shelving which we have worked out rather carefully is illustrated on page 224. This set of adjustable shelves on which our lamp stock is kept has been the subject of much discussion, but we have finally standardized on open shelves which are just as deep as a lamp box and which are spaced just far enough apart vertically to permit lamp boxes to be shoved in endwise. The argument was advanced that glass doors should inclose these shelves, but on closer analysis we decided that this was not desirable, since it would have detracted from convenience of handling and since such lamp stocks as are kept on the shelves move too rapidly to accumulate dust. Shelves like those used for the lamps are also installed in all stores for such boxed goods as irons, toasters, etc. In adopting this arrangement the fact that the advertising matter on the end of the boxes is of value in suggesting wants to the customer was considered of importance.



In both the Cicero and the Maywood stores shelving has been built around the posts which rise through the center of the room. During the winter season cartons of goods are set on these shelves and in the summer-time they serve as pedestals for fans. Substantial low tables, matching the trim of the store, make convenient store furniture for displaying exhibits of lamps, irons and other articles which do not require the protection of glass.



In a deep store the all-glass showcase is of great value in that it does not obstruct light nor cause deep shadows. As shown above, such all-glass showcases set against the windows serve as window displays from without and as showcases from within. The right-hand picture shows the attractive appearance of the Lake Forest store at night.

In the salesman's domain—behind the counter—a number of other important details have received consideration. On a shelf provided for the purpose manufacturers' envelop stuffers are stocked where they can be picked up and wrapped in with every bundle. This method of distribution is inexpensive and effective. Behind every counter there is also a hidden waste paper box. It is hinged at the floor and rocks under the counter when not in use. This provides an easy method of keeping all waste paper and discarded cartons out of sight. So far it is an open question as to whether wrapping paper and twine should be kept at the end of the counter in country-store fashion or whether it should be under the counter and out of sight. The men who are responsible for the design and who want the store to look neat in all respects favor the hidden location; while salesmen who have their own convenience uppermost in mind favor the counter location. Both methods are being tried out in our new stores to determine which is more practical from the standpoints of both convenience and pleasing appearance of the store. The totally-inclosed window is also considered best because it is easy to keep clean.

At the Lake Forest store, where the front and one entire side consist of show windows, we are making our showcases do double duty. All four sides of these cases are glass. They are placed against the window ledge so that from the street the goods in them appear to be in the window trim; but when the same goods are observed from the interior they appear merely as stock.

Ideas on what makes and what mars the store's appearance differ widely. Some merchants decry the use of placards. We believe in them to such

an extent that we have with premeditation designed a molding in which placards can be inserted like street car cards. We are fortunate in being able to secure well-written cards and we use large numbers of them in this molding over the wall shelves. In some of the stores we also tack cards shaped like pennants, on the walls. We believe strongly in the power of suggestion to prospective customers that these cards convey.

There are certain classes of goods that can be purchased on placards—Dim-a-lites, Radieyes, Hylos, and the like. We have found that it pays very well to purchase goods on these cards and to set them on the showcases and counters. Before we started this practice we seldom sold these devices. Now they move very rapidly. Following this same theory we have, therefore, attempted to give flashlight dis-



Returned lamps, waste paper, everything, has its place in one of these bins. The attractiveness of the store is also enhanced by putting the rolls of wrapping paper behind the counter. Note that the ledge in front of the shelving has been omitted in these stores. It proved too convenient a place for salesmen to set goods that should have been returned to the shelves.

plays prominent locations in all stores, but these are usually kept in cases to prevent deterioration.

The show windows for these stores have formed almost a special study in themselves, but we have arrived at a type of construction that seems to be satisfactory. The windows are made from 5 ft. to 7 ft. deep, depending on the space available, so that large apparatus, such as washing machines and ranges, can be exhibited without making the window appear crowded. At the back of each window is a wooden panel about 36 in. high and above this is glass. The idea in this arrangement is that the panel permits a trim up to a height of 36 in. This is a very desirable feature because the tendency in displays of electrical goods is to make the trim too flat. The clear glass above this panel aids in focusing the attention of the mildly interested observer on the window display, but at the same time permits anyone who wishes to do so to see the entire interior of the store.

The subject of expense is, of course, uppermost in the mind of any store manager or merchant when laying out his store arrangement. The cost of having things just the way we want them is not, however, a great deal. Two of our stores were completely equipped for about \$1,500 each, while the third cost about \$4,000. The higher price of the third store was due to the fact that it is furnished in a style suitable for the city it serves. Each of the stores occupies about 1200 sq. ft. of floor space, and for properly furnishing a room of that size \$1,500 is considered a fair cost. But in any event the cost of equipping a store of this size would be approximately the same, regardless of whether such special ideas as have been mentioned are included or not.

An Income-and-Expense Statement for Merchandise Sales

Classification of Accounts Recommended by N. E. L. A. Committee on Merchandise Accounting, to Put Retail Appliance Sales on Profitable Basis

IN any shop doing a retail merchandising business, it is important that a systematic record be kept of sales transactions, and that a true account of the cost of doing business be available at all times. While these principles are vital to the success of any retail electrical merchant, they are of no less importance to the proper conduct of the central station "electric shop," lest the expense of operating such retail business be lost in the total expenses of the new-business-getting department.

Feeling that a merchandising business of this character should properly be self-sustaining, yet should not be burdened with expenses that properly belong to other branches of the electric-lighting company's business, the committee on merchandise accounting of the National Electric Light Association, of which L. A. Coleman is chairman, has formulated the following classification of retail accounts, illustrating the application of this system by the suggested form of "Income and Expense Statement" reproduced on this page. The detail is in a sense elaborate in order to meet the needs of the large company, but the smaller merchant can with a little thought select enough of the classification for his own requirements.

The first heading, for example, is "Revenue from Merchandise Sales" and includes the gross sales of merchandise less the returns made by customers. This account is made up from completed sales tickets and credits.

First under the heading "Cost of Goods Sold" comes the entry "Cost of Merchandise," under which are listed the purchase prices of goods sold. The cost of handling and storing goods is placed under the heading "Storeroom Salaries and Expenses." This item includes storeroom expenses on merchandise articles, breakage and damage in stock, inventory adjustments, and freight and expressage chargeable to the merchandise department. If separate sales divisions are maintained the total amount of this account should be distributed at the end of each month. The charge for "Defective Merchandise Replaced" is intended to cover all exchanges due to

defects in the articles themselves. This charge will be offset by credits from the manufacturers where defective goods are replaced by them. If the defect occurred in the storeroom the charge should be made to "Storeroom Expense," and where delivery is responsible, "Delivery Expense" should bear the cost.

are charged to "Delivery Department Expense." All salaries and expenses in connection with the demonstration of merchandise should be charged to "Store Demonstration."

"Advertising" should head the list of publicity costs and under this head should be listed a proportionate part of the expense incident to electrical

	1916 Year	1917 Year	Amount	Percent
508.1 Revenue from Merchandise Sales				
.2 Cost of Goods Sold				
.21 Cost of Merchandise				
.22 Storeroom Salaries & Expense				
.23 Defective Merchandise Replaced				
TOTAL COST OF GOODS SOLD				
508.3 Cost of Installation				
.31 Labor and Material				
.32 Installation Expense				
TOTAL COST OF INSTALLATION				
508.4 TOTAL COST OF GOODS SOLD & INSTALLATION				
GROSS PROFIT				
508.4 Selling Expenses				
.41 Sales Dept. Salaries & Commissions				
.42 Sales Dept. Supplies & Expense				
.43 Delivery Dept. Expense				
.44 Store Demonstrations				
.45 Rentals of Stores				
TOTAL SELLING EXPENSES				
NET PROFIT				
508.5 General Expenses				
.51 Clerical Salaries & Expense				
.52 Executive Salaries & Expense				
.53 Advertising				
.54 Rentals				
.55 Insurance & Taxes				
.56 Uncollectible Mises. Bills				
.57 Non-Payment Recovered Merchandise				
TOTAL GENERAL EXPENSES				
NET EARNINGS				
508.6 Fixed Charges				
.61 Interest on Investment				
.62 Interest on Working Capital				
TOTAL FIXED CHARGES				

Form of income and expense statement for comparing merchandise sales and earnings. The numerals at the left serve to connect this classification definitely with the N. E. L. A. standard system of accounting if that should become desirable in the case of a central station company.

The expense of installing appliances and replacing those improperly installed should be charged to "Cost of Installation."

Salaries of salespeople and store executives and commissions paid are charged to "Sales Department Salaries and Commissions." "Sales Department Supplies and Expense" is the heading which includes cost of display, alterations and repairs to store equipment, janitor service, heat, light and power, sales traveling expense, and instruction of sales people. Where deliveries are made, the cost of vehicles, postage, expressage, and labor

shows, etc. Other self-explanatory cost items are "Rental," "Insurance and Taxes," "Uncollectible Merchandise Bills." To cover the cost of removing and putting into saleable condition those articles for which payments are uncollectible, a heading "Non-Payment Recovered Merchandise" is recommended.

Under fixed-charge entries, "Interest on Investment" should cover the investment charge on furniture and fixtures in the store, while interest on stock and on accounts receivable should be charged to "Interest on Working Capital."



Where "Service" Counts in Selling Farm-Lighting Outfits

How an Iowa Contractor-Dealer Is Opening Up a Rich New Field for Business Among the Prosperous Farmers of His Neighboring Counties—Farm Lighting Plants, He Insists, Must Be Sold and Installed by Responsible and Experienced Electrical Men, Without Whose Electrical Knowledge and Service the Customer Cannot Get the Full Benefit of His Investment and Equipment

By L. C. SPAKE

SELLING farm-lighting plants is a job for which no kid-glove city salesman need apply. Especially is this true in Iowa, for to sell these miniature electric service stations and equipment direct to the farmers in that wealthy and fertile commonwealth requires the services of salesmen robust in body as well as in brains—if you will accept the judgment of the writer, who has just spent some time out in that field, plowing by auto through a continuous procession of mud puddles placed end to end and interrupted only by short, steep, slippery hills of which more and less-pleasant things could be said, would the editor and the post-office department permit it.

Moreover, there are a powerful lot of things a farm-lighting salesman should know and know thoroughly to be successful. He must know how the plant he is selling is made, how it operates and how it should be installed. He must be capable of selling house wiring with plenty of outlets, and must know how to figure wiring costs. He must know how to shoot trouble, including one-cylinder-gasoline-engine trouble, on the plants that are installed. He must know how to sell lighting fixtures, and must be familiar with fixture prices in mail-order catalogs. He must be able to talk price, energy consumption and labor-saving features of socket appliances. He

must know how to figure applications of motors and shafting to small power requirements. As a storage-battery wizard he must be the last word. He must know his competitors' goods.

And above all this he must be able to translate all of the more or less technical knowledge he has on these subjects into practical farm language and to present this translated version of the farm-lighting plant clearly and interestingly. He must, in addition to this, be possessed of the good common sense that every farmer recognizes and admires. And he must know how to drive a Ford.

Not every farm-lighting plant agent—much less the men he hires—is thus properly equipped to handle the business. On that fact hangs a large part of this story.

THE STORY OF A SUCCESSFUL AGENT

To begin at the beginning, I went to Marshalltown, Iowa, where it was said the Marshall Electric Company, piloted by E. N. Peak and Mr. Clark, was making a success of a farm-lighting department operated in conjunction with an electrical store and an electrical contracting business. When I walked into the company's place of business and saw a big red-lettered sign toward the rear, reading "Farm-Lighting Department," and at the same instant was greeted with a friendly handshake and a slap on the

back, I just sort of felt I had come to the right place.

"Well, how's the farm-lighting business?" I asked. The question was all that was needed to set Mr. Peak talking, because he lives close to that subject.

"Our game here is going good," he said, "but there are two things in the farm-lighting business in general that are going to give trouble sooner or later. First, too many manufacturers are selling plants through the non-electrical trades. Second, no manufacturer has yet adopted, I believe, what the responsible thinking dealers themselves feel is the best organization plan.

"WITH EACH PLANT MUST GO ELECTRICAL KNOWLEDGE"

"Selling plants through non-electrical dealers is wrong, because with each plant there must be sold a certain quantity of electrical knowledge and a lot of service. The non-electrical dealer—no matter how reliable he is—cannot give this knowledge and service. The majority, however, do not want to give it; they see only the profit in the sale at hand; they skimp the job everywhere, first to get the job on price, and, second, to get out with a whole skin. The natural result is the plant gives imperfect satisfaction. It is a black eye to the entire industry, for farm news travels fast in

these days of party telephone lines—where 'rubbering on the line' is the established rule, not the exception. I can cite to you wildcat jobs that contain not a foot of loom. The wire lies on rafters. It is a sight. Plants and wiring ought to be installed so that if a farmer ever takes a notion to get service from a 'high line' he can do so safely.

"The way to stop this kind of trouble is by perfecting a real sales organization. I maintain," continued Mr. Peak, "that the manufacturers should do business through reliable and responsible state agents. These men or firms should be responsible, not only for all sales in their territories, but also for seeing that every plant sold in the territory gives 100 per cent satisfaction. They should do the advertising locally, because it will be more effective. The ads in national farm papers do not make sales for the dealers in this territory. So I believe the manufacturer who first perfects a real sales plan will build a name for giving farm-lighting service. Then his troubles in selling farm-lighting plants will fade into insignificance.

"In a limited way that is what the Marshall Electric Company is doing in seven Iowa counties. It is building a name for Marshall Electric Farm-Lighting Service, and incidental to this is selling farm-lighting plants. We are only getting started, but the results of missionary sales and advertising work are beginning to show.

"We took the agency for Western



"Now register determination," the photographer said, and here you see E. N. Peak, of the Marshall Electric Company, and the car that helps him sell farm-lighting plants, both accepting the invitation. In the right-hand picture note some of the trenches via which the farm-lighting salesman must make his advance on the prospect, whose buildings are seen in the distance.

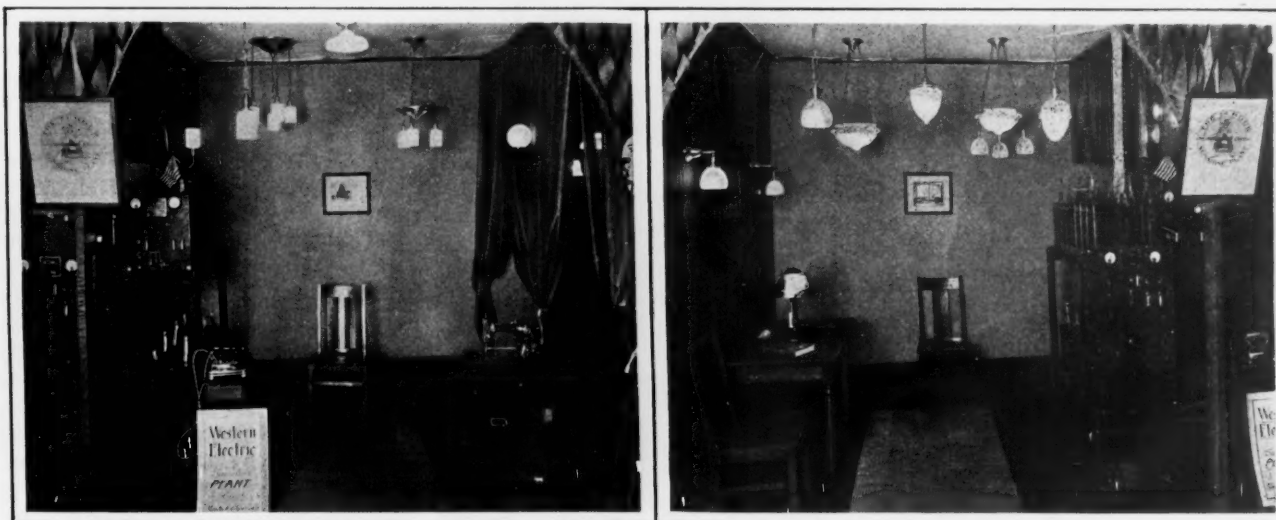
Electric plants early in the fall of 1916. We chose that plant because we wanted to tie up with electrical people and because the territory proposition offered us was favorable. Until the first of the year we carried the farm-lighting business, including the expense of one salesman we had hired and the direct-by-mail advertising, along with the contracting and store business. On Jan. 1 we made the farm-lighting business a department. Since then we have added men until now we have seven in that department.

HOW THE SALES ARE MADE

"Several of these men know every farmer within 40 miles of Marshalltown. They all know, or are being taught, the farm-lighting business. These men work on their friends, acquaintances and others they meet daily

in the communities and on a list of about 600 prospects that we got by some advertising stunts. These stunts consisted of demonstrating a plant at the Ames college short course before 1500 farmers, and of operating a demonstrating plant on the Dairy Special of the Chicago & Northwestern Railway which ran from Clinton to Carroll, Iowa, and to points north. This sort of work has sold twelve plants ranging in total cost from \$500 to \$750 each."

Mr. Peak was interrupted at this moment by Mr. and Mrs. Stackhouse, a couple from the vicinity who are building a new farmhouse, and who came in to ask about farm lighting. The interruption came just at the time when Mr. Peak was saying that the missionary efforts of the field salesmen were beginning to tell. And the



The entire rear of the Marshall Electric Company's store has been fitted up as a farm-lighting department. It contains three booths equipped with complete farm-lighting plants, lighting fixtures, 32-volt socket appliances, pumping outfits, etc., at an outlay of \$1,200. In the demonstrating booth, shown at the left, the action of a 66-amp.-hr. plant, in which a motor operating from the central station lines is substituted for the gasoline engine, can be shown and explained in detail to the prospect. The booth at the right is used principally to show a combination of fixtures, including a table lamp, which is sold at a special price. This booth contains an 80-amp.-hr. plant complete except for the gasoline engine.



The homes of two satisfied customers, Mr. Shipton and Mr. Wilson. In the house and outbuildings of the latter, there have been installed sixty-six lamps and nearly that many outlets, when the many flush switches are counted, and at Mr. Shipton's place they even have extra outlets for socket appliances and a 100-watt yard lamp on the pole at the center of the picture.

arrival of the Stackhouse family proved it.

Likewise, the arrival and similar interested request of another farmer—Mr. Ramsey—later in the forenoon, clinched the proof. Just think of it—two callers actually interested in buying from \$500 to \$750 worth of goods in the short space of a few hours. Mr. Peak says they are beginning to come in quite frequently. Distance and bad roads seem no obstacle. These prospects were, of course, shown the plants installed in booths built for the purpose in the farm-lighting department. During the demonstration I wandered out to listen to the sales talk. But more of that later.

In the afternoon we went out to see some of the Marshall company's installations. We visited one job that was just going in and another that was completed. The most pleasing feature of the trip to me was the attitude evinced by the farmers toward their plants and toward the man who had sold them. They were certainly satisfied customers. Incidentally, Mr. Peak sold a 32-volt motor-driven sewing machine during one of these visits while I was along.

A CONFERENCE THAT GOT DOWN TO BRASS TACKS

Back in town at 5.30 p. m. it was announced that there would be a sales conference at 7.30 p. m., which there was. It lasted until 11.35 p. m., and there were not thirty seconds during the whole evening when the meeting dragged. Not particularly because it was well planned, but because every man there was interested and was on his toes.

As the meeting opened Mr. Peak asked if I had any more questions.

"What advice," I asked, "would you give an electrical dealer from Indiana, for example, if he came here and asked your honest opinion of what would be necessary for him to do to succeed in the business of selling farm-lighting sets?"

"I would advise him to secure \$5,000 as capital for the business, if his territory was to be as large as two counties," came the answer from Mr. Peak. "Next, he should get a real sales organization, of real 'he' salesmen."

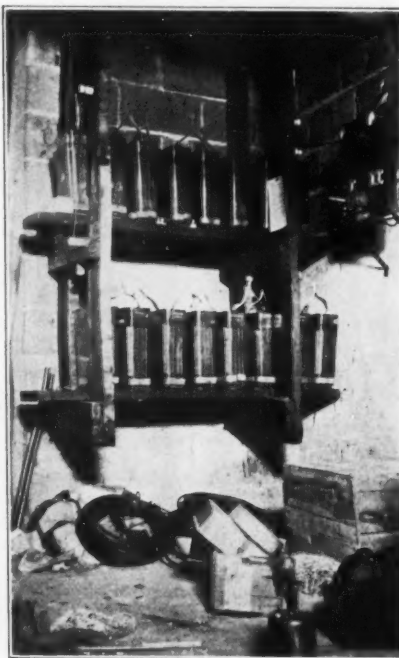
"That Indiana contractor," continued Mr. Peak, "should install a business and follow-up system to take care of prospective customers. He should hold frequent co-operative meetings

and sales conferences. He should advertise locally in co-operation with the manufacturer. He should provide for good supervision over all installations, and insist that they be put in properly to stand rigid electrical inspection. He should even announce himself as an advocate of state electrical inspection of farm-lighting jobs.

"Then he should provide for a service plan such as we have by which one of our men visits each plant every sixty or ninety days, after it is running, tests the battery, asks about trouble and gives advice. This should continue until the educational period is over. He should tell all customers to call him by phone whenever trouble develops, charging the customer's call to his own account. And last, he should get it straight in his own mind that he is selling farm-lighting *service*, not farm-lighting *plants*."

"What questions would this Indiana contractor need be prepared to answer?" I questioned.

"Every question in the world," replied Thomas, one of the salesmen. "The farmer has his evenings to read. He does read and he talks to many people. So he asks many intelligent and many foolish questions. Among those that are repeatedly asked are: 'How long will the battery last?' The answer is from six to nine years. To which the farmer skeptically responds, 'Well, why does your battery last so long while the battery on my automobile lasts but two years?' This must be explained by showing the farmer the difference between the life of a battery used at a high rate of discharge for automobile cranking and one used at a low rate of discharge for lighting. He must be told of the difference in ruggedness of battery con-



When storage batteries are installed up off the floor, they are easy to tend and do not interfere with the basement scrubbing. A farm-lighting installation in the vicinity of Marshalltown.

struction and of the method of rating farm-lighting batteries for a given number of cycles of charge and discharge, permitting an accurate estimate to be made of battery life.

"This talk naturally leads up to another question because the farmer is hard to convince on that battery-life proposition. He usually asks, 'How much will it cost when I have to replace the battery?' 'Forty-eight dollars and the labor of changing the positive plates,' comes the answer like a flash, the salesman explaining that the rest of the battery will usually outwear the positive plates two to one.

"Another question the farmer asks is, 'Can I operate the plant? What trouble will I have with it?' 'Can you run a gasoline engine?' is the counter query of the salesman. The farmer's reply is yes, because they all have engines in Iowa. So that answers the question on trouble.

"The farmer also frequently asks what the company's guarantee amounts to, whereupon the salesman must, with dignity, talk about the impressive capital of the company back of the plant. These are the most frequently recurring questions."

I put just one more question before the sales conference proper got under way. It was, "Why do none of your salesmen have demonstrating outfits on their cars when manufacturing companies recommend this method of selling?"

DEMONSTRATING NOT A MODEL BUT THE REAL THING

The complete answer to that would make a long story in itself, but in brief here is the reason. The Marshall Electric Company has tried the demonstration idea and has discarded it for what is thought to be a better method. The Marshall people say the wear and tear on cars and sets under their conditions would ruin any company. Furthermore, the practice is not necessary. It is better in making the approach for the salesman to catch the farmer just after dinner. At that time he is willing to talk and rest a few minutes before going to the field for the afternoon. When the farmer has gone to the field the salesman can interest the woman of the house. When interest has been aroused he can make an evening appointment with the whole family to take them in his car to a neighbor's plant already installed.

The advantage of this is that at the

neighbor's house the salesman has sales allies in his satisfied customers. When he is using a demonstrating plant on the back of his car he is absolutely alone. He then loses the force of that powerful recommendation coming from an actual farm user. Moreover, he could not create the desire, amounting almost to envy, which the sight of lighted fixtures in the neighbor's house creates.

If there are no plants in the neighborhood the Marshall Electric Company pays the farmer's carfare to Marshalltown, if he buys a plant. Better still, if enough interest can be aroused to justify it, the company gets permission to install a plant temporarily at some farmhouse. One



This plan of demonstrating a farm-lighting set on an automobile has been tried at Marshalltown and abandoned in favor of the policy of taking the prospect to see for himself the actual operation of a neighbor's plant.

salesman pulled this stunt, inviting in the neighbors for an evening. Then he gave the housewife an electric iron for her trouble. Nobody but the salesman tumbled to the fact that the lord and master of the house would have to buy the plant to make the iron work. He sold the plant.

When we had this auto demonstrator argument run to earth, the business of putting on a sales talk was at hand. Thomas was to sell one of the Marshall company's plants to Townsend, a new man in the organization. The other salesmen were each appointed to represent competitive plants.

"Well, sir, Mr. Townsend," said Thomas, stepping up before a plant in one of the booths, "If you are going to buy a plant—my plant or anyone else's plant—the thing of vital importance to you is the battery." Then followed a simple but complete battery talk, taking up construction, the maker, the upkeep, cost and require-

ments, the cell action and rating. It was a technical talk on storage batteries translated into simple language any farmer could grasp. He laid particular stress on the necessity of buying a battery large enough, explaining the difference between the continuous rating which his battery was given and the intermittent rating of a competitor, by a clever and familiar analogy. He likened the battery to a flashlight dry cell or automobile storage battery, showing how the intermittent rating permitted of higher apparent values on account of the time permitted for recuperation. Farmers understand that such small batteries will recuperate, and that helps in the explanation. He insisted on a battery large enough to safely operate the installation with only two charges a week. This liberal battery rating, of course, makes for long battery life and general satisfaction. "Plenty of battery" is the keynote of the Marshall Electric plan.

HOMELY ANALOGIES IN THE SALES STORY

Thomas made the transition from the discussion of the battery to the next unit of the plant—the generator—smoothly. He said, "Having told you what the battery will do and how long it will last, let me show you something about the generator which charges it." Then followed a discourse on generators all brought down to the simplest terms.

When some "competitor" interrupted, Thomas answered, then went back, reviewed in twenty words what he had said, and then continued his talk on the generator and the switchboard in turn. Each detail was in this manner clearly explained.

The greatest single element in making the talk simple was the use of homely analogies. The contactor was likened to a check valve in a water system; voltage drop was explained by its similarity to the loss of water force in piping.

And so it went, up to the closing of the sale. Competitors were never knocked; they were simply damned with faint praise.

For when all is said and done, selling farm-lighting plants is profitable even if competitive business.

And in it there is but a very small place for any but men with real backbone and real knowledge of the electrical business.

WHAT OF THOSE WHO ARE AFRAID?

An Incident That Shows Why More Electrical Appliances
Are Not in Use—The Part That You Must Play

By EARL E. WHITEHORNE

THE telephone rang the other evening in my house. It was my old friend Malcolm White, who after talking about coming for a long time, had finally moved his family out from the city and taken the house of another friend not far away.

"What are you doing this evening?" he asked. "Why, nothing at all," I answered, though I turned a loving eye upon the cheerful wood fire that I had just touched a match to.

"Well, I've got a job for you," he said. "You know all about electricity, and I want to get you to tell me how to connect up our electroliers. I don't like to monkey with 'em for fear I'll do something wrong. I'm going to run right over for you in the car."

So over he came and over we went. The table lamps and boudoir lamps and reading lamps were all placed right where they were wanted but were not connected. Everything else in the house was pretty well settled.

HE WAS AFRAID HE "MIGHT BLOW UP SOMETHING"

I had taken a screwdriver, a pair of cutting pliers and a roll of tape along, supposing that there was some tinkering to do—some cords to lengthen or some plugs to change—but everything had fitted in just right. There were plenty of receptacles in floor and baseboard to take care of everything.

The first lamp that I looked at had an Edison-base plug on it and the receptacle beside it was an Edison-base socket receptacle, yet there stood the reading lamp with a Mazda in place but not connected.

"Why didn't you just screw this one in?" I asked, surprised. "They fit all right."

"Well, I don't know," he answered, "I don't understand this stuff and I was afraid I'd blow up something or the lamp would burst or blow a fuse or something. I'm scared to monkey with anything electrical. I don't understand it. We thought we'd better

wait till you could come and look it over. Maybe the current isn't the same here."

* * *

NOW there's a situation for you. Here's a man to whom a motor car is simple enough. He drives it. He takes care of it. He is on terms of intimacy with the carbureter and the "differential." He talks motor talk. When he is driving and hears a flutter in the diplofocus, he instantly and fearlessly invades the mystery beneath the hood and plucks out the trouble. But when it comes to screwing a familar plug into an unfamiliar socket he is afraid. And his wife, who does not hesitate to operate the sewing machine and puts a coal stove through its paces any time, agrees with him that it is dangerous to monkey with electrical appliances.

What have we done through all these years—we central stations and contractors, we jobbers, manufacturers and dealers, and all we advertising men and editors? What have we been about that many of our best friends still regard electric service with suspicion? For here are the Whites, a normal family of educated, intelligent, prosperous Americans, who all their lives have lived in homes equipped with all the modern comforts and have used electric light year after year. But when it goes beyond the simple pulling of a socket chain or pushing of a switch, they fear it. They don't understand it. They feel that it is better to play safe and let the thing alone. And there are thousands upon thousands of such families.

WE CAN'T ASSUME THAT THE
PUBLIC UNDERSTANDS

I remember one day in a meeting of an N. E. L. A. committee, somebody made the statement that the public as a whole is still far from being acquainted with electrical appliances. But a certain central station commercial manager disputed this assertion. He said that for so many years in his town they had ad-

vertised what electricity will do, that he believed that everybody realized now the advantages of the service.

Here is the other side of it, and it is typical of our industry. We live so close to all of it, we have watched the sale of household appliances grow so rapidly year after year that we say to ourselves: "Ha! The public has caught on. They now appreciate the benefits of doing it electrically." And we forget that for one family where this seed is sown and growing, there are hundreds that have never thought of using more than light alone and know no more of that than to screw in a new one when a lamp burns out.

THIS MANAGER, TOO, WAS OVERLOOKING THE A B C'S

It just so happened that the man who argued in his own defense that day was the sales manager of the very company that served the Malcolm Whites in their former home, yet his advertising and his selling efforts had apparently made but very slight impression on that household. And what's the reason? Probably because he takes for granted that the whole wide world is interested and understands, he neglects to teach the A. B. C's. He talks about the beauties and the comfort of the wares he has to sell, forgetting that his consumers and his prospects must first lose their natural, inherent fear of electricity before they can begin to look upon it as a trusted servant. And all these Malcolm Whites hangs back and are neither buying appliances nor using them.

Why should we wait to learn this lesson? These families, when they once begin to use the service freely, will be no less enthusiastic than other households that have seen the light. They will be no less profitable customers of the dealer, contractor and central station. Why must we wait to learn the lesson?

But how often does the central station salesman when he signs up a new consumer stop to talk to him about the human side of electricity, and

make sure that he understands its safety, its adaptability and the comfort and convenience that it offers.

And how often does the contractor, when he is wiring a house, chat a little with the owner and his wife, and make sure that they realize just how the fuses guard their safety, how the circuits play their part and what the installation offers them in labor-saving opportunities? And how often, when the dealer sells a lamp does he bother to find out if the customer is clear on the matter of watts and candlepower. This is a point that seemed to be bothering my friend White particularly the other night, but in the five minutes required to tell the simple story I cleared up the point.

But it is just these things—these A. B. C.'s—that stand to-day between the electrical merchant and the public and delay the sale of numberless appliances. You must remember that your town is full of Malcolm Whites, and convert them into customers.

Some Tested Recipes for Selling Electric Ranges

In the electric range sales campaign book entitled "Something in It for You," issued by the Westinghouse Electric & Manufacturing Company, the following recipes are listed for the successful selling of electric ranges:

"Demonstration, of course, is the best means of making sales. If you can possibly do it, hire one or more demonstrators, fit up a place in your store as a kitchen and then set out to bring in the housewives. There are various and numerous ways of doing this.

"Put in one to six installations on one month's trial, selecting homes where the wife does her own work, has good social prestige and is naturally economical. Put these trial ranges on a separate meter so that the low running cost can be demonstrated. Give these trial customers all the moral and professional assist-

ance which you can to make the results successful. These tests will create an interest that will gradually spread over the whole town, and earn favorable comment.

"Get photographs of installations of ranges you already have made, with statements from the women who use the ranges as to their advantages. Advertise these in your newspapers.

"Send solicitors into the homes to interest the women to the point of going to your store for a demonstration.

"Co-operate with church societies, women's clubs, etc., you to furnish the range and current and they the foodstuffs, for social suppers. Advertise in advance that every course of these suppers is to be electrically cooked.

"Put on a small food show with the co-operation of local dealers, you to furnish the cooking appliances and demonstrators, and they the foodstuffs. Have a well-known cook take charge."

Seventeen Ways to Help Uncle Sam in Your Own Shop

What You Can Do with What You Have to Share in National Service

EVEN if the government doesn't ask you to leave your electric store or contracting business and take a job as a private at \$18 a month, don't get impatient; there are ways to help that are nearer to your desk than the recruiting office.

Your display window, for example, may be enlisted very effectively and made to encourage recruiting, Red Cross work, or home gardening. At Danbury, Conn., for instance, the local electric company helped to raise \$180 for the Red Cross in one day with the window pictured. In New Jersey another company has been loaning electric sewing machines and the services of demonstrators to Red Cross classes. Other appliances might be similarly tendered.

LET YOUR ADS HELP

If you have a regular space contract with a local newspaper, you can devote a portion of it to an appeal for Red Cross funds and for subscriptions to the war bond issue.

You can encourage the public to buy war bonds by placing in your window the poster shown on page 236 of this



When the Danbury (Conn.) Electric Company offered its window to the Red Cross, \$100 was secured in one day.

issue. Buy bonds yourself, and help your employees to buy them on installments, collectible from their wages.

The food situation may be improved by offering an assortment of vegetable seeds with every purchase of a dollar or more. Such assortments can also be given free to your employees. Even a supply of gardening literature on your counter will help to prevent waste of seeds and to stimulate interest.

There are many ways of helping

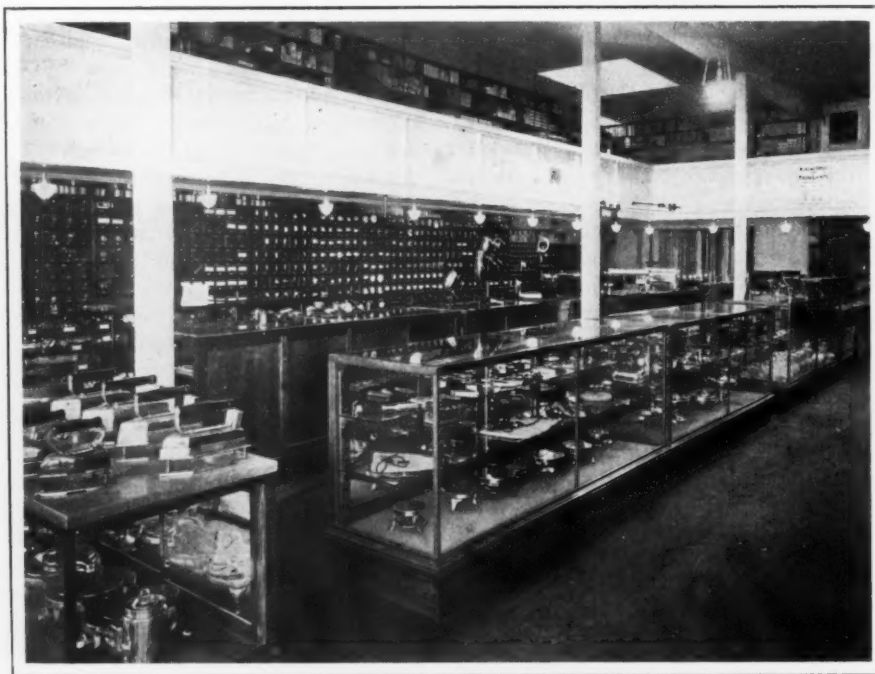
your men who are getting ready to don the khaki. You can secure information circulars of the different branches of the service in order to help them decide upon the work for which they are best fitted.

PROVIDING FREE DELIVERY FOR THE BOYS IN KHAKI

If regulars or guardsmen are stationed on duty near your town you can deliver packages to them free when one of your delivery wagons passes the vicinity. There's a town "somewhere in New York" where the Red Cross women make up boxes of bread, cakes and pies daily, and local dealers take them out to the boys who are protecting New York City's water supply. Some employers are planning to pay the difference between employees' salaries and their government remuneration and to guarantee the men jobs on their return.

There are plenty of patriotic and helpful things to do right at home, and those who want to devote a portion of their time and energy to work for their Uncle Samuel need only look about them for opportunities.

Some Novel Ideas in Store Arrangement That Four



Most stocks of miscellaneous electrical supplies are unsightly at best, and when openly exposed are hardly ornamental in an attractive salesroom. So the Stubbs Electric Company of Portland, Ore., keeps all fittings and parts in closed drawers as shown, mounting a sample on each drawer in plain view of both clerk and customer. This saves the clerk's time and memory, and also makes it easy for those customers who can point to, if they cannot describe, what they want. In the showcases for small parts, "notion bins" serve the same purpose. Note also at the left, the marble case top for displaying electric irons, which, it will be observed, are the only nicked appliances in the retail stock not kept inclosed under glass. At the rear of the store, beneath the balcony, note provision for hanging various kinds of fixture cords.

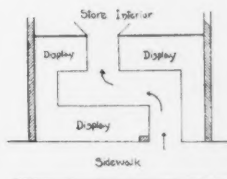


In solving the same problem of unsightly miscellaneous stocks the Electric Supply Company of New Orleans has used a construction that owes its underlying idea to the post-office lock-box and the "Automat" restaurant. Behind the counter are rows of bins—all opening at the rear into a narrow stock-room, but closed on the store side by small hinged doors, plainly labeled. Through these doors the store salesmen take

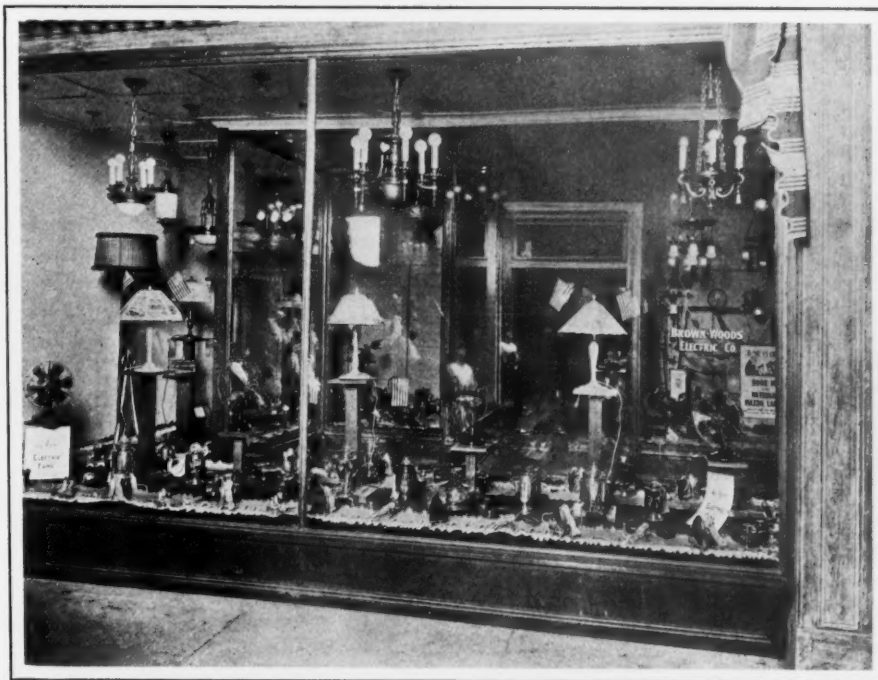
their goods from the shelves, the bins' contents being replenished from time to time from the rear passage by the stock boys. Telephones connect with other stock floors, and there is also a specially sensitive microphone set, just inside the stock-room, for confidential communication with the credit and accounting departments while the applicant seeking favors waits in front of the counter.

Live Electrical Dealers Have Put to Practical Test

The Brown-Woods Electric Company, Houston, Tex., believes in making it easy for the prospective purchaser to look at and examine electrical goods without even entering the store. Hence this novel show window was installed. The



entrance is at the right of the big post, passing which the visitor finds himself in a glass-lined corridor, surrounded on all sides by window displays. At the rear of this corridor is the main door entering the store proper.



"Keep all polished parts under glass," is one of the guiding dictums of every store manager who has learned to ward off loss from "shop worn" goods. The same might be said of fine portable lamps and especially silk shades, for these suffer rapid depreciation if exposed to dust and dirt from open doors and windows, daily sweepings, etc. As shown here, the Northwestern Electric Equipment Company, St. Paul, Minn., has

adopted sliding panes of plate glass to cover the shelving on which its lamp stock is displayed, as well as the bins beneath. The glass protects the fine fabrics and painted surfaces, and yet shows off the illuminated shades to advantage when the lamps are switched on for a prospective buyer. Note also how the comfort of women customers has been considered by providing them with easy chairs.



It was long after the regular closing hour, but the boys of the Brass Tack Brigade had drifted as usual into the office to gossip and talk shop. That evening the talk had all been of the convention at Atlantic City, to which five of the men were to be delegates.

THE ALLIES OF INDUSTRY

The Brass Tack Brigade Mobilizes Its Forces to Secure Greater Industrial Efficiency and to Battle for Normal Business and Bigger Production

By FRANK B. RAE, JR.

"THERE will be no National Electric Light Convention."

The announcement fell like the proverbial thunderbolt upon the sales crew of the Combination Gas & Electric Company—commonly known as the Brass Tack Brigade. The boys, or most of them, were gathered in the company's salesroom. It was long after the regular closing hour, but they had drifted as usual into the office to gossip and talk shop. This evening the talk had all been of the convention at Atlantic City, to which five of the men were to be sent as delegates.

"No convention," said Micky Daly. "Why, ye poor kill-joy, ye might as well try to tell us that there'll be no illiction next fall! Th' convintion is as much av an institution as New Year's or th' birthday av Robert Immet. Ye talk non-sinse."

"I mean it, fellows," said Davis. "The convention has been cancelled. The stuff is off."

"Why?" It was big Jim Lenox who put the blunt question.

"War," answered Davis. "At least, that's the impression I have. All I really know is that the Big Boss called me on the phone ten minutes ago and said to cancel all preparations. There will be no convention of the association this year."

"War?" queried Micky. "War—hell!"

"So General Sherman remarked some years ago," said Jack Reeves, "though some people in this country seem to think that war is a matter of wearing a flag in the buttonhole and standing up when a wop orchestra plays the 'Star Spangled.'"

"Yis," added Micky, "standin' up whin th' band plays an' sittin' down dum quick when th' guy on th' platform says, 'Who'll enlist?'"

"I suppose most of us fellows will be out of jobs; we'll have to enlist or starve pretty soon," said Edwards, who, being a new man, realized that he might be among the first to be let out in event of curtailment of the force.

"Business will be shot all to pieces

is my guess," added Tom Sloan. "With the National Association calling off the convention it looks pretty black. And to think that only this afternoon I paid three hard iron men for a new straw hat! I should have saved th' money. The way things look I guess I oughta've bought flour or tucked th' coin into the old teapot on the parlor mantel."

"Ye-ah," sneered Micky Daly, "and yer parents should ha' strangled ye at birth, so's ye wouldn't grow up to be a disgrace to yer sex. What kind o' talk is this, anyway?"

"T' hear ye, wan wud think th' United States av Americy was driftin' down th' Styx stern foremost. Fer th' peace av yer soul, I rise to inform ye that she ain't. Th' only thing th' matter with th' counthry is that we have too many citizenesses in pants. You're like an ould woman that gits a telygram: ye don't know what ut's about, but yer so sure it's bad news that yer afraid to look at ut."

"Well, ain't it bad news?"

"I dunno. If I did I wouldn't be

after argyin' with ye. But I'm sure av this: it ain't so bad as a lot av ye seem t' hope."

"Fellows," spoke up Davis, "this is no time for panic talk. We don't want to lose our heads and go squealing around like a bunch of frightened pigs. We—"

"It's no disgrace to run when you're scared," put in Edwards, smiling grimly.

"I move we hold a meeting right now and talk this thing over."

"Good hunch."

"Meeting will come to order!" snapped Davis and the crowd settled down to hold formal council.

* * * *

"MR. CHAIRMAN," began big Jim, "it seems to me we ought to decide what we're going to do in this war."

"After which," put in Micky, "we will telegraph Prsident Wilson our decision so's he will know what he shud do. 'Twill please him immensely and will relieve him av a lot av responsibility an' strain."

"We are going to fight," said Big Jim. "We are going to fight like seven devils. Some of you will enlist, and the rest of us will stay right here and keep things going. The faster business goes the better the country will fight."

"That comes very near to being the nation's program, Mr. Lenox," spoke a new voice.

It was the Big Boss himself, who had a habit of edging in without a band of music. "You have summed up the situation exactly. Those that don't fight have simply got to keep things going."

"I came down here to-night to tell you young gentlemen a few straight truths," the Big Boss continued. "The first thing is that nobody is going to lose his job; on the contrary, every man's job from to-day forward will be about twice as big and four times as hard as it ever was. There is so much work to do that we cannot afford to lose the services of a single effective man. Those whose duty it is will fight, and those who can't fight will have to perform double labor at home."

"The next thing I want to say is that no industry in the world has a greater opportunity to serve the country than ours. War will mean two things to this country—the organiza-

tion of a protective army and the development of national efficiency. We, as an industry, will furnish our share of the men for the army and we will do more than our share in the direction of industrial efficiency for ourselves and for others.

"Here are some of the things we can do: We can teach manufacturers and communities to police their plants and buildings with flood-lights at a few cents a night apiece instead of maintaining large forces of guards at several dollars a day for each man. We can teach manufacturers to substitute industrial battery trucks for laborers with wheelbarrows. We can speed up the nation's after-dark pro-

by going about these tasks in an earnest, confident manner.

"That's all I wanted to say. Those of you who feel called upon to enlist will be carried by the company and will be given every opportunity to win better jobs when you return. Those of you whose responsibilities or physical condition keeps you at home will have a chance to serve the country in the industrial army. Both those who go and those who stay will have a very solemn duty to perform. I am sure that no man in the electrical business—certainly no man in this company—will fail in that duty."

* * * *



"I'm startin' right now," answered Micky. "An' I'm goin' alone an' without no obsequies." And the little Irishman picked up his bags and trudged off into the night.

duction 5 to 10 per cent by installing scientific and adequate lighting in factories.

"We can increase the output of men and machines by applying motors in a more efficient manner. We can cut down the cost of living by placing more labor-saving devices in the homes. We can aid the country's transportation system by installing motors and industrial trucks and freight-handling machinery at terminals, thus relieving congestion, reducing manual labor and effecting large economies in costs.

"But above and beyond everything, we can prevent—or help to prevent—any feeling of panic and uncertainty

THE Big Boss bowed, took up his hat and stick and marched solemnly from the room. It was not until the door had closed behind him that Micky clambered to his feet, and the boys noticed for the first time two packed grips tucked beneath the appliance table at his side.

"Fellas," he said, "I hope ye won't think I'm runnin' out on ye, but th' fact is, I'm quittin' me job th' night. Ye have a hard stunt ahead av yes: I'd like t' stick around and hilp, but I gotta quit."

"Why?" asked Davis.

"Well, ye see, I'm a non-com in the enlisted resarve outfit. I' ben studyin' nights an' sich an' t'-day I got word that I'm wanted in th' trainin' camp. Ye see—"

"Three cheers for Micky!" whooped Big Jim. "Are you ready: hip, hip—" and the cheers that followed made the building tremble. Little Micky blushed and stuttered as the boys crowded around to shake his hand and wish him luck.

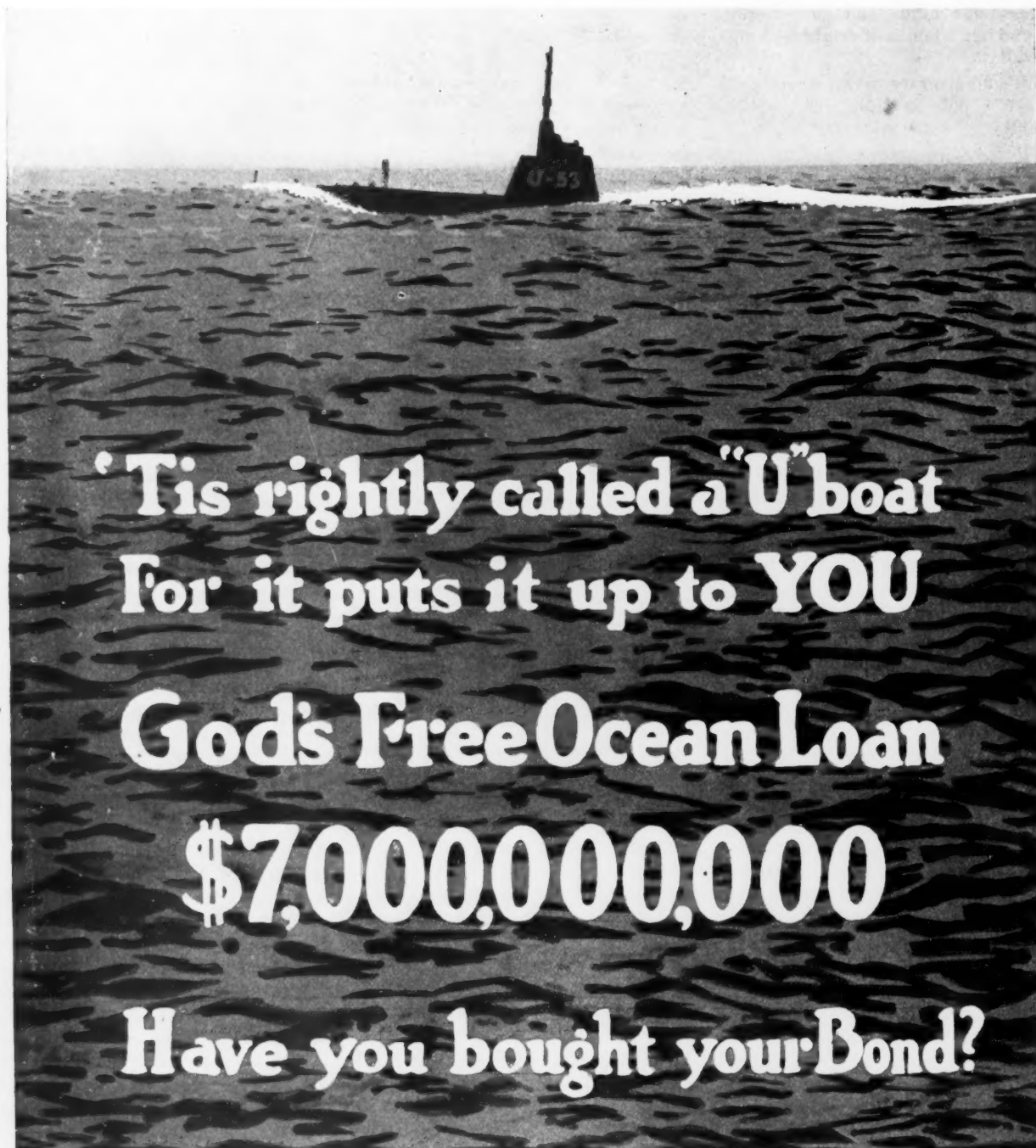
"Aw, hell's bells!" he protested. "What ye making sich a fuss about? Did ye iver know av anywan be th' name av Daly that cud keep out av a scrap? Me only fear is that th' referee will ha' counted ten over Kaiser Bill before I get into th' real fightin', but if not, then ye can count on th' bys from Americy t' give him th' punch that'll finish him."

"When you starting? Gee! We gotta see you off, Micky. We gotta get a band and start you right."

"Nothin' doin'. I'm startin' right now, an' I'm goin' alone an' without no obsequies. Good night."

And the little Irishman picked up his bags and trudged off into the night.

"To Make the World Safe for Democracy"



**'Tis rightly called a "U" boat
For it puts it up to YOU
God's Free Ocean Loan
\$7,000,000,000
Have you bought your Bond?**

Uncle Sam has issued his first call for volunteers. Dollars are wanted. Seven thousands of millions of them—the equivalent of \$70 from every man, woman and child under the flag.

And this tremendous sum will best come from folks like you and me—from the hoards and stockings of the thousands of small investors who can furnish their bits without transferring any holdings that underlie the country's industrial structure, so important at this hour.

The first issue now offered totals \$2,000,000,000. It will bear interest at 3½ per cent, payable Jan. 1 and July 1, and will be available in denominations as low as \$50. Since its proceeds will be used chiefly to buy supplies here in America, for our

Allies and for our own forces, its general effect is bound to be that of stabilizing and promoting the nation's business.

Subscribe to-day for your share. Explain the Liberty loan to your friends and urge them to buy also. Paste this page in your show window where public and patrons may see it. Encourage your employees to take a bond, offering yourself to advance the money, to be repaid out of their wages during the next year—thus inculcating both thrift and patriotism.

Your own bank will arrange to get your bond for you, rendering this service without pay. Call there to-day and write out your subscription to help "make the world safe for democracy!"

THE EDITORS.

Electrical Merchandising

The Monthly Magazine of the Electrical Trade

Volume 17—May, 1917—Number 5

PUBLISHED BY MCGRAW-HILL PUBLISHING COMPANY, INC., NEW YORK

The Customer's Language

WE quote this paragraph from an electrical dealer's letter, received in this office the other day, because it gets at the fundamentals of talking to the public in its own manner of speech.

"In our talks with customers when selling appliances," says this dealer, "we try to explain some of the terms in general use. We tell them what a watt is, and how many it takes to make a kilowatt. We show them how to compute the cost of the energy consumed by a lamp at the rate they pay. In selling irons and fans this has been the means of making many sales. Most people think because a fan has a motor that it uses lots of electricity. When we explain to them that an ordinary fan consumes no more electricity than a lamp they are surprised. We use this example in our window, showing a 40-watt lamp burning, and a fan on medium speed using 45 watts, and tell in dollars and cents what each costs. It is much more convincing to the layman to show these comparisons in dollars and cents than in watt-hours."



Contractor Competition

IT is a pretty well established fact that a man cannot efficiently and painlessly go through a stone wall by butting his head against it. If he desires simply to get on the other side of the wall he climbs: if he wants to remove the wall he does so by the use of a crowbar or dynamite.

This observation is inspired by a letter recently received from a contractor friend of ours, troubled perhaps by some irritating bit of business of the day. "ELECTRICAL MERCHANDISING will not be worth a hoot," he writes, "until you find means to keep the lighting companies from competing with the contractors." Overlooking the generous estimate our correspondent places upon this journal's powers to reshape the industry on order—we think that here is a case of head-butting with a vengeance.

There is no disposition to climb over or tear apart the wall, or even to find out why and by whom the wall was built. Our correspondent simply and blindly attacks barehanded a condition which at best can only be remedied after a long and intelligent effort, in which the sympathetic help of both contractors and central stations is needed.

As a matter of fact, the competition of the central station is only one factor in the contractor-dealer's prob-

lem. There is the competition of the department store, the hardware store, the drug store, even the 5-and-10-cent store. There is the competition of the cut-price contractor, of the unscrupulous contractor whose methods are unfair, of the contractor whose capital enables him to crush or maim competition. In short, the contracting business is just as troublous and irritating as any other business—the shoe business, for example, or the business of making flying machines.

But year by year the very conditions of which our contractor friend complains are, we know, steadily improving, and to speed along this betterment for the benefit of the whole industry—contractors, dealers and central stations—is one of the big underlying aims of ELECTRICAL MERCHANDISING.

We regret, however, our inability to accommodate our correspondent with the millenium at this writing.



The Flatiron for "Jimmying In"

THE electric flatiron seems to be the most effective "jimmy" that the Do-It-Electrically-Idea can use for breaking into new homes. The iron has proved itself successful as an "opener" and is deserving of considerable thought before you go to work to tie into the June co-ordinate campaign.

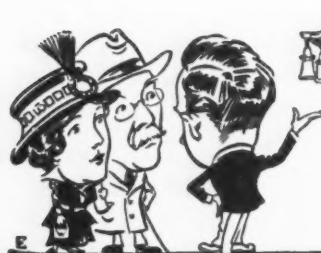
Year after year from coast to coast we have seen the electric flatiron roll up its surprises in the totals sold by campaign methods, and experience has shown that to a large extent those flatirons go into those households where electrical appliances have not been used before. In other words, there is something about this flatiron that appeals to the woman, inexperienced electrically, and since this is a fact we certainly should work it to the utmost.

The list to which your flatiron advertising is addressed should be a pioneer list, in so far as possible. The doorbells that your electric-iron salesman ring should bring them face to face with housewives who have never tried this "electric servant" that we tell about. And, most of all, the effort that you put into the campaign should look beyond the simple selling of the iron, and see that this is actually but the driving of a wedge that other men have used to open up a market for complete electrical equipment. And you should do no less.

The Winning Argument

THE route to a customer's purse is by no means always a straight, direct one—it is frequently long and devious, and the salesman who aspires to real efficiency in the art of selling must be able to follow the road confidently and accurately, no matter where it leads.

The "dry facts" talk is all right if you have a red-hot prospect—one who actually needs and wants the article being shown. But where the demand must be created—the need exposed—the salesman must inject plenty of life into the selling talk and see that the element of human interest is not lacking.



LIGHTING SALES and METHODS

Items of Experience and Good
Advice in Lighting Practice

Knowing the Customer's Requirements

By NORMAN MACBETH

It pays to know the requirements of a location for lighting equipment. Only too often the salesman feels that he must offer something "cheaper" without actually knowing or caring to look up the needs of the customer. This was strongly illustrated in a recent experience. A lighting unit salesman called on a prospect and was informed that they had practically decided upon some particularly beautiful fixtures. It seemed that, through a change in the plans of an important building for which these fixtures were specially designed, true to period, three units were left over. Others of their kind had sold for \$150 each, but these were offered for \$90 each.

A couple of weeks later the unit salesman was called on the phone by the prospect with the high-grade, true-to-period fixtures. His new fixtures, he said, were in but the lighting was neither sufficient nor satisfactory. Could he send one of his units down for trial? He could and did.

A little later the prospect used the telephone again. "Those units of yours seem to do the work," he said. "How much are they?" Apparently the answer was not clear because the prospect said: "Why that will save me \$30 on a fixture!"

"Thirty dollars," exclaimed the salesman. "No, I didn't say \$60 a fixture. I said \$6. Your saving will be \$84 per fixture." More misplaced junk. A price appeal in the mind of the salesman carried to the nth place beyond the decimal point.

This experience illustrates the failure of a salesman to consider the service which is to be rendered. The \$90 proposition was undoubtedly art with a capital A, with good lighting and the demands of the location given practically no consideration, while the \$6 unit was just what you would expect for \$6, something to hold an incandescent lamp of sufficient size for the

location. Undoubtedly there was an excellent middle ground for an artistic, worth-while lighting fixture that would also effectively distribute the light and would result in a desirable illumination effect as well as meet the proper appeal to the esthetic—required in the place of business no less than in the home.

Photographs in Show Window Remind Public of Upstairs Fixture Rooms

A type of store layout in which from five to ten small rooms upstairs are given over to fixtures of as many different styles is quite common in the Middle West. The chief disadvantage of it is that those who pass the store

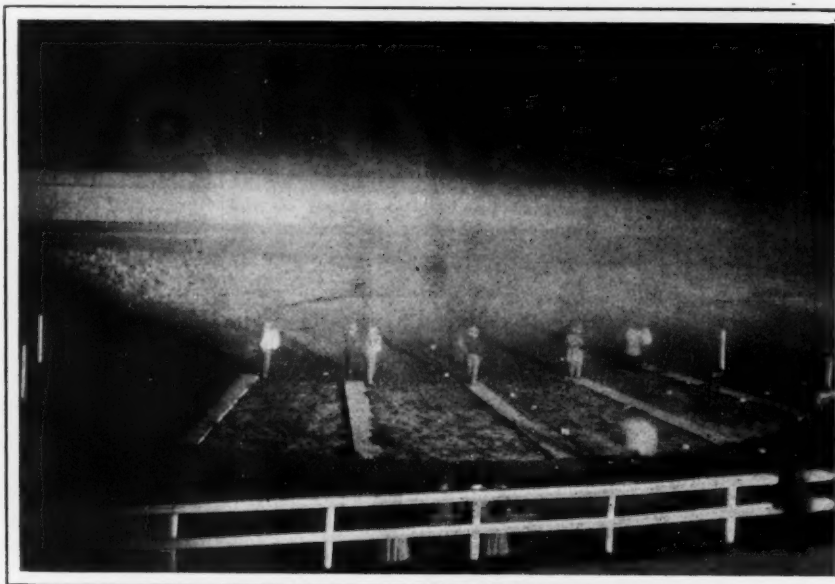
or even those who enter the front of the ground floor salesroom do not always realize what a large variety of fixtures these hidden rooms contain. Usually the fixtures are never seen un-



This display card in the show window reminded passers-by of the company's attractive fixture rooms on the second floor.

less the prospective customer expressly asks for them. The majority of a city's population, therefore, may never learn about these really beautiful fixture rooms. Realizing that this condition existed at its place of business, the Protective Electric Supply Company of Fort Wayne, Ind., made arrangements to bring its fixture rooms downstairs and put them in the show window. It accomplished this by mounting photographs of the rooms on a large display card and placing the card in a prominent well-lighted spot in the window.

The Flood-Lighted Gun Range in the Preparedness Program



Every American citizen should have practical experience in the use of firearms, but the busy commercial life of the present leaves few daylight hours which the average man can devote to this duty and recreation. The picture illustrates, however, how one gun club has made use of electric flood-lighting to extend its shooting hours over into the period of darkness. The same equipment, targets, etc., are used for night shooting as in day practice, and the same high scores are made under both natural and artificial light.

The general practice in lighting such standard ranges has been to install three to six 500-watt projector units in positions behind the shooters' stands at an elevation of 15 to 20 ft. above the ground. The beams of the individual projectors may be spread or concentrated as needed by shifting the position of the lamp within the reflector.

In these momentous times every gun club and every home-defense league can make good use of an electric-lighted range where American citizenry can learn to shoot—and shoot straight—during available night hours, while keeping the wheels of production grinding at top speed during the day.

Emergency Industrial Lighting with Floodlamps

When the necessity for moving a number of bales of cotton arose suddenly at the Doris B. cotton compress at Pine Bluff, Ark., floodlamps were resorted to to light the long runways over which the hand trucks are operated. With the aid of six 500-watt flood-lighting units installed in positions to command the long aisles of the compress, the work of moving the cotton went on during the hours of darkness and the transfer was completed in rapid time. Compared with a corresponding installation of ordinary incandescent lighting, the flood-lamp units cost little to install and were put into place in a fraction of the time that would have been needed to install the usual form of lighting.

"Buy a New Fixture for Living Room, Move Old One to Bedroom"

Aside from the general business of supplying electrical fixtures for new dwellings, there is a profitable field for the fixture dealer in re-equipping existing houses, in whole or in part, with new fixtures. Recognizing, however, that there are often difficulties in the way of securing the complete re-equipment of the average residence at the expense of throwing away the old fixtures, the Memphis Electric Company, dealers in lighting fixtures and electrical supplies at Memphis, Tenn., have devoted particular effort to getting the householder to install new and modern fixtures in his entry hall, living room and dining room. At the same time the company recommends that the old fixtures taken down from those rooms be shifted to upstairs chambers and halls, resulting in the improvement of the appearance of these rooms.

"Move your living-room and dining-room fixtures to your bedrooms" has therefore become a slogan with the Memphis Electric Company. According to J. G. Morton, its vice-president, newspaper advertising suggesting that new fixtures be installed in the more prominent locations of the home, from which the old equipment is shifted elsewhere, has resulted in securing many customers who would not otherwise have re-equipped. Moreover, there are also a certain

number who, becoming interested, have gone the fixture company "one better" and have re-equipped their homes throughout.

Flood-Lighting the McKinley Statue at Toledo



By means of projector lamps installed on the near-by street arc posts, the statue of William McKinley at Toledo, Ohio, is brought into brilliant relief after nightfall, while overhead, on the pediment of the Lucas County courthouse gleams an electric flag. The method here employed of utilizing the convenient lamp-posts to support the flood-lighting units, suggests the possibility of flood-lighting many similar public statues in other cities.

The Wise Burglar Shuns the Electric-Lighted House

In the April issue of *How-I-Did-It*, the little magazine of Westinghouse lamp sales, the first-prize story comes from the pen of J. E. Bray of the Public Service Electric Company of Newark, N. J. An abstract of Mr. Bray's story follows:

"One evening I happened to notice an article about burglars having visited a house in the vicinity; it read:

'As Mr. and Mrs. B. returned from the theater last night, and entered the hallway of their residence, two men jumped out of the parlor window and escaped. Owing to the street lamp being shaded by the trees, they were unable to get a good description of the uninvited visitors.'

"I cut out the article and next day called at the B.'s address.

"Mrs. B., I said, 'I read in last night's paper you had visitors. Would you mind telling me just what happened? I may be able to suggest something that would help you, should a

future visit occur.' She was a very pleasant little woman and related the story in every detail.

"My cue came when she reached the part where the burglars ran down the porch steps. I said 'Mrs. B., if you had had some kind of light on the porch which could be lighted from a switch in the hall, you could have gotten a description of the men which might have led to their capture. By the way,' I added, 'did they take any of your valuables with them?'

"No," she replied, 'We must have arrived just in the nick of time, for they had all of my silverware tied in a table cloth.'

"Smiling, I said, 'They may come back after it. Don't you think it would be a good scheme to have electric light put in? You could have a wall switch right next to your bed, and by just pressing a button throw a flood of light in the room. Also have a light on the porch with a switch in the hall. No, it is not very expensive to wire up an old house; let me get you an estimate.'

"I sent a contractor to figure on the job, and we landed it."

And now for the sequel in Mr. Bray's own words:

"Whether you believe it or not, about a month later the yeggmen re-appeared. Mr. B. came home, and as if it had been practised for a movie show, the burglars, again made their exit via the front window. Mr. B. pushed the button and by the aid of the porch lamp got a good description of the men. The police were put on their trail and soon apprehended them, recovering the loot, and landing the thieves in prison."



Red, White and Blue Lamps for Your Signs

By S. R. WANAMAKER
Philadelphia Electric Company

At the present time when everyone is showing his patriotism and loyalty by displaying the national colors, I suggest replacing wherever possible all present lamps in signs with lamps of red, white and blue—in this way showing our colors at night as well as during the day.



HINTS FOR THE CONTRACTOR

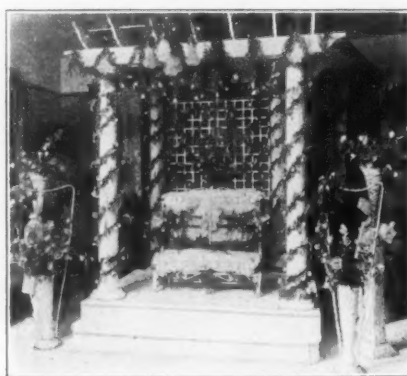
Ideas on Estimating, Stock Keeping, Shop and Construction Methods, and Collections

Electrically Lighted Wedding Bowers Are a Specialty with this Contractor

W. H. B. Spangenburg, a New Orleans electrical contractor who makes a specialty of novel lighting effects, has developed a profitable side line of lighting work in connection with local weddings. In this work Mr. Spangenburg co-operates with a florist. When floral decorations are being planned for a home ceremony, he or his florist friend offers to replace the usual bower with an electrically-lighted pergola like that pictured. Eighty or more miniature lamps are secreted among the strands of smilax and waxed roses. A charge of \$100 is made for setting up and connecting this electrically-lighted rose arbor, and since the same pillars and parts are used over and over again, the wedding arbor becomes quite a profitable investment after the first cost has been defrayed.

Mr. Spangenburg also co-operates with the florist in securing orders for electrical decorations in connection with dinners and other public events. At the outset most of the

orders were received through the florist, but since Mr. Spangenburg's novel installations have been attracting attention throughout the city persons who want electrical decorations now call him up instead and



Any happy New Orleans bride and groom can be married in an electrically lighted bower like this by paying Contractor Spangenburg the small sum of \$100 in advance for decorations.

ask him to make the arrangements with the florist. In this way, of course, Mr. Spangenburg's office has been put in touch with many new friends and customers.

Checks Written with "Lamp-Dip" Proof Against Tampering

Fred Miles of the Gate City Electric Company, electrical contractor, Atlanta, Ga., has discovered that green "lamp-dip," such as is used for coloring incandescent bulbs for St. Patrick Day celebrations, can be used for writing checks, and that figures written with such "ink" are positively unalterable. Accordingly, he now keeps a bottle of green lamp-dip on his desk and all checks sent out by the Gate City company are filled in with figures that defy any kind of tampering. While Mr. Miles' own esthetic preference is for green, he says that any other color of lamp-dip will serve as well.

The lamp-dip penetrates clear

through the paper, until it is visible on the back, so that any attempt at erasure would mean erasing away the paper itself. The permanency of this lamp-dip "ink" was proved to Mr. Miles one day last month when a salesman for a check-protector device came into his office and sought to show him how easily the average check can be "raised" with the aid of chemical bleaches. Mr. Miles quietly wrote out a check with lamp-dip and passed it over to be altered.

For half an hour the check expert worked earnestly, pouring different kinds of acid over the check. Finally, after emptying his last bottle without dimming the luster of the emerald-green figures, he sorrowfully gathered up his pocket laboratory outfit, laid the unscathed check on Mr. Miles' desk in silence, and retreated, new lamp-dip-less fields to conquer.

An Opening Display with "No Sales Allowed"

When the Louis D. Rubin Electrical Company of Charleston, S. C., started in business at 353 King Street, the capitalization of the firm was less than \$300. Two years later the figure had climbed to \$10,000 and the business increase was a proportionate one. New quarters became necessary, and when completed last month the 1917 model store was thrown open to the public with a reception and electrical display. The event was well advertised, it being clearly stated that a large stock of the latest electrical



Visitors were invited to inspect the new store; and, to give the atmosphere of a real "opening," it was stipulated that no sales be made that day.



Getting All the Material on the First Requisition

By C. W. COWLES
New Britain, Conn.

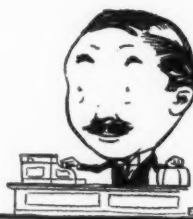
We formerly experienced considerable loss of time through incomplete requisitions for material on our outside work. Workmen would forget some necessary items and cause a special trip between our stockroom and the job.

To overcome this difficulty we have made up a list of items needed on every job, and special requirements for special work. This list is posted in our stockroom and its use has eliminated about 60 per cent of the errors.

STORE EQUIPMENT AND STORE METHODS



How to Plan and Equip Your Store
—Systems Used in Successful
Merchandising



Display Your Portable Lamps on Low Pedestals

"Keep your displays of portable lamps well below the level of the customer's eye," is the advice of the store manager of the Electric Specialty Company of Dallas, Tex.

"Compare these two table lamps," continued the speaker in proceeding to prove his point to a dealer visitor.

"They are identical in shape and size, yet see how much more attractive this one appears when you look down upon it as it stands here on this low step, than the identical lamp over there on that high table.

"When the customer looks down on the illuminated lamps shade—always display portables lighted if you can—his color sense is stimulated by the light and color, and the lamp is shown off much more strikingly than when it is at a level with the eye.

"Consequently, in this store we have abandoned high tables for the display of portable lamps and exhibit all such lamps now on this low set of shallow

steps. Its topmost shelf, as you see, is barely 3 ft. high and brings the tops of the lamps well below the line of vision of the standing customer."

Rugs Attract Attention to Vacuum Cleaners

The Allentown (Pa.) store of the Lehigh Valley Light & Power Company is floored in hardwood. Upon entering the store, the customer's eye is at once attracted by an oasis of carpet and rugs, on which are displayed several types of vacuum cleaners. Simple as is the idea of using the rugs in this way it has provided excellent means to make such a display of cleaners stand out and gain attention from the casual caller.

How a Dealer Selects His Price-Card Assortment

Homer Wood of Richmond, Va., believes in putting a price card on every appliance and article offered for sale in his store. He holds the view that price cards encourage the customer to buy by automatically answering the invariable inquiry "How much?" Prices in plain figures, he says, are also a help to the clerks, saving them from memorizing the prices of hundreds of articles at the risk of possible errors. Price cards, moreover, prove especially useful when the regular stock clerk is temporarily absent, and customers are waited on by someone not familiar with the stock.

This Richmond dealer recently purchased 1000 price cards from a New York house which makes a specialty of such supplies. His selection of price-card denominations began with cards reading "5 cents," rising by 1-cent steps to 40 cents. From 40 cents to \$2.50 the cards advance by intervals of 5 cents, from \$2.50 to \$7.50 by 25 cents, and from \$7.50 to

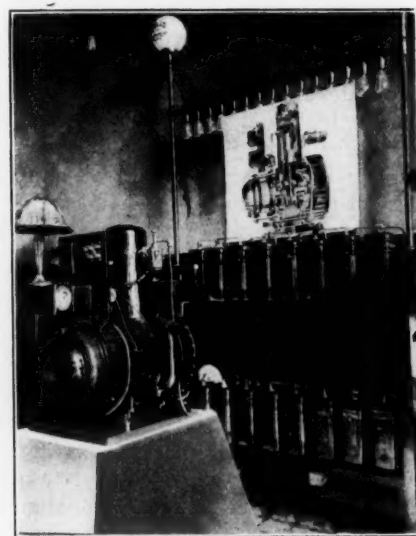
\$25 by 50-cent intervals. Such assortment, he says, provides cards to cover the average line of electrical supplies and appliances ranging all the way from fuses and small parts to fairly expensive lamp portables. The price cards which this dealer purchased were made by the New York Price Card Company, 415 East 138th Street, New York City, 1000 cards with indexes being furnished in a convenient box for \$6. The cards are also sold at 60 cents per hundred.

Demonstrating Farm Lighting Plants in the Store

The farmer who is considering the purchase of an isolated electric-lighting outfit wants to see the machinery in operation with the lights burning before he will venture near even the most attractively printed order blank.

Knowing this, John R. Bloom, who has an up-to-date electric shop at Pine Bluff, Ark., in the midst of a prosperous farming district, has installed the Delco-light demonstration outfit pictured in the front of his store, where farmer visitors to town can see the equipment in use, study the sectional diagram of its parts, and ask questions concerning its operation.

The engine-generator unit is mounted on a concrete base made at a cost of about \$2 from one and a half sacks of cement, and the necessary amount of sand and gravel. This foundation base rests on the store floor, and is heavy enough to absorb



This demonstration farm-lighting outfit installed in J. R. Bloom's electric shop at Pine Bluff, Ark., at an outlay of less than \$10 has helped sell many outfits to farm customers.



Pushing the Good and Poor Sellers

By S. C. LLOYD

I approached a metropolitan news stand and looked for my favorite magazine. I did not see it.

"Got a 'Redmopolitan'?" I asked, and the clerk produced it from a handy pile beneath the counter.

"Why do you keep so popular a book hidden away out of sight?"

"People ask for it; we don't have to show it. We use display space for those that need pushing," was the answer.

To me this little incident offered an interesting sales lesson that might be considered seriously by electrical dealers who do business in a limited store space.

all vibration of the machine at full speed. The quarter-sawed oak shelves for the battery cells were put together in a local cabinet shop, and when wired with the conduit standards for the lamps, the wall display rack cost complete about \$8. Two 12-in. ball globes, bearing aloft painted figures giving the price of the outfit, \$275, complete the demonstration outfit, which is helping to open up a profitable new out-of-town field of sales for the dealer.

Exploded Displays

The term "exploded display" is applied by experts to characterize displays in which the article exhibited is taken apart and the simplicity of its construction shown.

This form of display is particularly suited to electrical appliances. The public in general has the idea that electrical appliances are complicated and dangerous. To show a suction sweeper, a fan motor or some similar device "exploded" proves to the public that there is nothing complicated about it.

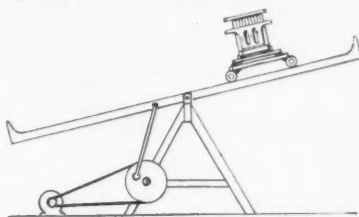
Some manufacturers of complex devices have used the "exploded" type of display to justify the price of the article exhibited; thus, recently a window showed the parts of a cash-register cabinet, stating that something more than a thousand separate pieces were used in its construction. In the electrical industry, however, the aim should always be to show the simplicity of the device.

Demonstrating an Electric Washer with Air

A washing machine arranged in a novel way for demonstration purposes has been made up by the Capital Electric Company of Chicago. The tub of one of the company's standard machines has been removed and the revolving cylinder is mounted on ball-bearings on the frame. In place of the regular propeller blade a set of 8-in. fan blades has been substituted. The cylinder is filled with red, white and blue ribbon and revolves in a current of air instead of water. An additional roller is mounted 3 ft. above the wringer and a 6-ft. belt of paper is attached. The sales talk is printed on the paper roll, which revolves at a readable speed when the machine is in motion.

The Ups and Downs of Business

Movement in the show-window always attracts attention. One of the simplest forms of motion attraction in



A "motion" window display like this can be arranged for almost any device and is sure of attracting attention.

the window is the use of a "see-saw." A board with a strip along each side and a bumper at either end is balanced upon a frame or "horse." A simple motor drive keeps it going slowly like a child's see-saw. The appliance to be featured is mounted upon a little wagon, or upon wheels attached to the appliance, and so runs back and forth along the board. The diagram shows the scheme completely.

Almost any device can be featured in this way, and many clever catch-lines for the window cards can be evolved out of the up-and-down idea. An elaboration of the display is to ar-

range signs which can be changed by the motion of the board so as to read, when the board is up, "High Quality," and when the board is down, "Low Price."

A New Trick with Revolving Platform

The revolving platform is an old scheme in window displays, but recently it was used in a clever way. The device exhibited was a washing machine, and the circuits were so arranged that whenever the machine turned directly toward the glass the drum of the washer would begin revolving. The intermittent on-and-off demonstration of the washer attracted a great deal more attention than would have been the case had the washer drum been allowed to revolve constantly.

Seeds of Shop Success

Preach up-to-dateness to your customers; practice it yourself by keeping the latest designs in sight.

It's well to have people think of your shop as a landmark, but don't let them see the same window display more than a week at a time.

A June Bride Window That Suggests Electric Wedding Gifts



Electrical gifts are the logical presents for the bride, whether she is married in June or January. However, the big matrimonial mobilization materializes in the Rose Month and the Western Electric Company, 195 Broadway, New York City, has an appropriate window display all ready to help dealers cash in. The company offers to furnish window cards and complete instruction sheets to dealers upon application.

SALES HELPS FOR THE DEALER



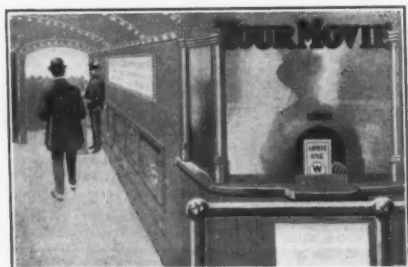
What the Manufacturer
Offers to Help You Get
More Trade



A Complete Combined Campaign to Help Dealers Push Fan and Heating Appliance Sales

TO help electrical dealers, central stations, and other resale customers in solving their problems of merchandising electric fans, electric heating appliances, and electric ranges, the Westinghouse Electric & Manufacturing Company has mailed to dealers and lighting companies all over the country an unusually attractive and novel twenty-four page sales-campaign book in colors, entitled "Your Movie," which this year brings together, in unique form, the substance of the various separate campaign books which have been issued for fans and heating appliances in previous years.

Aside from its striking characteristics as a piece of printed literature "Your Movie" embodies some constructive new selling ideas which are highly interesting. Not content with merely offering advertising helps to the dealer, the Westinghouse company has formulated the book so as to impress electrical merchants who receive it with the possibilities for increasing fan and appliance sales by the employment of up-to-the-minute methods. Constructive ideas are also given on the use of the various helps the company is prepared to furnish, and the effect these will have in the way of influencing sales is clearly shown.



The front cover of the Westinghouse combined fan and heating-appliance campaign-book, "Your Movie," which invites to the offerings of sales plans within.

Carrying out the idea suggested in the title, a distinctive and helpful feature of the book is a series of humorous cartoons, which show in a practical way just how various advertising activities serve to attract attention and so arouse interest which later develops into a resolve to buy. These cartoons appear in the form of strips or sections of motion picture films and border the tops of a number of pages in the book.

The cover page of "Your Movie" pictures the ticket office of a motion-picture theater. The lady ticket seller is shown seated in the booth with her finger on the little button that automatically releases the ticket, and the ticket, reading "Admit One," protrudes through a slot in the cover of the book. Upon turning the cover page a double-page picture is disclosed showing the interior of a playhouse and an usher taking the ticket from the patron. Behind are shown masses of people looking at a movie screen upon which has been flashed a message reading "A Reel Campaign for 1917, Produced by the Westinghouse Electric & Manufacturing Company."

In order to encourage, and at the same time impress dealers with the strong backing they are being given by the Westinghouse company by an extensive national campaign of advertisements in popular magazines, another page shows a picture flashed upon the screen reproducing the cover pages of a number of magazines in which these advertisements will appear. The next two pages are devoted to messages on the screen, urging dealers to tie up with the national advertising and the sales plan.

The central pages of the book describe and illustrate a series of sales

helps which will be attractively printed in colors. These helps include a combination and changeable window cutout and display stand, window cards, street-car cards, billboard posters, a series of mailing folders, lantern slides, and cuts for newspaper advertisements. Each of these pages is designated as a "Reel." Six reels are devoted to fan helps, while four are given over to heating appliance sales helps. The last page, or last "reel," as the title reads, features the campaign book on electric ranges, entitled "Something In It for You."

Perpetuating Popular-Magazine Publicity for the Retailer

In order to pass on to its central station customers the value of the familiar Cushman Parker illustrations which have appeared in its popular advertising, the National Lamp Works of Cleveland, Ohio, has arranged to furnish its lamp distributors with newspaper ads, street-car cards, bulletins, movie slides and window displays, based on these striking Parker paintings.

Under the title of "Ads That Live," N. H. Boynton, director of publicity for the National Lamp Works, has had prepared a booklet which describes the plan in detail. Repro-



"Oh! I Can See a LOT Better Now!"

OF course, you can see better when the light is better. With well planned electric light, your vision is clearer, close work is less tiring and a great source of eyestrain is gone. Never was electric lighting service lower in price than today.

Your house can be wired without inconvenience to you and at a very reasonable cost. Nor is the current your lamps will use expensive. An ordinary household-size electric lamp costs less than two-fifths of a cent per hour on an average.

May we send a man to talk with you about your lighting?

Your Name and
Address Here

Reproductions of illustrations from national advertising are now available to the dealer for use in his own advertising

ductions of six of the paintings for newspaper use are now available in any desired size in either line cuts or halftones. Free assistance in preparing copy to accompany the cuts is offered by the lamp works, and sketches for car cards are furnished without charge. Color plates for such cards are supplied at cost, while

some stock cards are offered gratis.

The entire 1917 series of popular ads of the National Lamp Works is being illustrated from Cushman Parker's paintings—a plan which gives the retail distributor a chance to transform some of the general publicity value into specific business in his own territory.

store shopper must see, and seeing, buys.

A variation of the \$1 weekly installment offer is the plan by which the customer pays 10 cents down and 10 cents additional each week thereafter, that is, 10 cents the first week, 20 cents the second week, 30 cents the third, and so on.

Some distributors have found that their own banks will assist them in financing such an installment plan, accepting the bonds as collateral, since each agreement is in effect a promise to pay. This arrangement has the objection, of course, that the customer will call at the bank instead of at the dealer's store, unless the bank consents to have the coupons detached, in which event the dealer becomes responsible for them.

To acquaint his own public with the coupon-bond offer, it is recommended that the dealer advertise locally through newspapers, window placards, mailing cards, and telephone calls.

A Coupon-Bond Easy-Payment Plan

Selling Vacuum Cleaners Under Installment Agreement with Customer that Makes for Frequent Visits to the Merchant's Store and so Encourages More Purchases

To the electrical merchant who can arrange to make sales on the installment plan, the scheme of "easy payments" offers wonderful advantages, particularly if the plan of payment provides that the customer make payments in person at the dealer's store. The installment plan also appeals strongly to the housewife who, with her weekly or monthly allowance, can and will manage to purchase articles she much desires for her home, by paying a small amount down and the balance in monthly or weekly payments.

A timely and forceful sales plan embodying these advantages is being introduced among its retailers by the Hotpoint Electric Heating Company of Ontario, Cal., for selling Hotpoint vacuum cleaners on easy payments. The coupon-bond certificate reproduced herewith being used.

These forms of coupon certificates are furnished the Hotpoint distributor with every cleaner purchased. The certificate, it will be noted, is simply worded, and is in the form of a note, being a promise to pay, and is negotiable. To each certificate is attached a generous supply of coupons. Each coupon is blank, as far as the amount of payment and the time limit of the special offer is concerned, it being left to the discretion of the dealer to make his own terms.

Beside the easy-payment facilities afforded, a feature of the plan is the number of visits by the customer to the dealer's store that the coupon-bond insures.

If, for example, the customer buys a Hotpoint vacuum cleaner under the coupon-bond plan at \$5.50 or \$5 down and \$1 per week, he will have to call at the dealer's store twenty or thirty

times before his payments are completed. These visits afford the dealer a splendid opportunity to display and sell other merchandise—taking a cue from the department store, one of whose strongest selling appeals is the display of attractive merchandise in such a way that the visitor or

The form of coupon-bond agreement, and a few of the thirty-five blank coupons attached to it. The reverse of the main certificate carries a form for assignment or transfer

NEW MERCHANDISE TO SELL AND WHERE TO BUY IT

Appliances, Socket Devices and Wiring Supplies Which
Manufacturers and Jobbers Are Putting on the Market

Dead-Front Panels

Dead-front distributing panels with push-button switches are being marketed by the Bryant Electric Company of Bridgeport, Conn. In general the switches have a porcelain base recessed



Dead-front distributing panel

to accommodate the standard two-button switch mechanism, of which two are provided for each unit. Provision is also made for fuse plugs for each line to the switch. All connections and conductors are concealed and separated from the front of the panel by a continuous sheet of insulating material, hence no live parts can be exposed. In case the switch mechanism requires adjustment the cover of the particular unit can be readily removed and the switch mechanism lifted from its socket. These panels can be furnished in double-pole, single-branch; double-pole, double-branch, and triple-to-double pole, double-branch types.

Industrial Truck

Samuel L. Moore & Sons, Inc., Elizabeth, N. J., have developed a four-wheel-steer industrial truck for which several advantages are claimed over the two-wheel-steer type. For instance, it is possible to operate the truck in very narrow aisles and in limited turning quarters, something impossible, it is



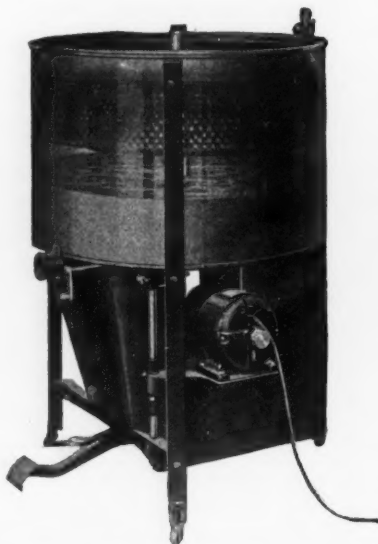
Four-wheel-steer industrial truck

said, with a two-wheel-steer truck. In addition, the truck can enter the side doors of a standard box-type freight car and run toward either end of the car. The ability to turn in a short radius is absolutely necessary in ma-

chine shops, warehouses and railroad terminals, where all vacant space has a big value.

Clothes Washed and Dried in the Same Tub Without a Wringer

An electrically-driven washing machine, unique in its operation of washing as well as drying the clothes, has been placed on the market by the Home Specialty Company, Cleveland, Ohio. The "Laun-Dry-Ette," as the device is called, washes the clothes by the vacuum-cup process, the copper vacuum cups working up and down and forcing the sudsy



An electric washer in which the clothes are washed and dried in the same tub, without a wringer. The picture shows the perforated inner tub raised, ready to dry the contents by whirling them rapidly.

water through the fabrics, while the copper inside tub slowly revolves. The copper vacuum cups have smooth rolled edges, so that the most delicate materials can be washed without possibility of injury.

The wringerless principle of the "Laun-Dry-Ette" makes it possible to dry the entire tubful of clothes, wringer-dry, in one minute without handling, according to the statements of the manufacturers. After the clothes have been washed they are lifted out of the water by pressing a foot pedal, while a hand lever causes the inside tub to revolve, rapidly forcing the water out through the perforations of the tub. This method, it is claimed, dries the clothes equally throughout, and eliminates the

wrinkles which would be caused by a wringer.

The mechanism is driven by means of a flat friction disk that engages a leather-faced drive wheel, so that in the event any working part should hang, the disk will slip, eliminating all strain on the parts of the machine.

Reel for Lamps

A reel that consists of a ball casing containing a winding mechanism and a drum capable of winding 10 ft. of in-



This lamp reel works like a window shade

sulated lamp cord has been developed by the Anderson Electric Specialty Company of Chicago, Ill. The lamp does not revolve, nor does the cord twist during the winding operation. This device can be adapted for use with drop-lamps, portable lamps and the like, as well as to provide an extension lamp.

Weatherproof Switch

A new weatherproof safety switch has just been produced by the V. V. Fittings Company of Philadelphia. Besides positive weatherproofing, simplicity in construction and operation are features



Safety switch for outdoor use

claimed for the switch by the makers. The switch operates with a straight pull, insuring a positive make-and-break, and can be locked in an open position to prevent tampering or accidental closing. The lid has an adjustable support for holding

it in the open position while making connections and fusing. There is also an attachment for lock and key. The switches are New Code fused—spaced for 125 and 250 volts.

Kitchenette Range

Ranges for apartments of one, two and three rooms have been developed by the Hughes Electric Heating Company, Chicago, Ill.

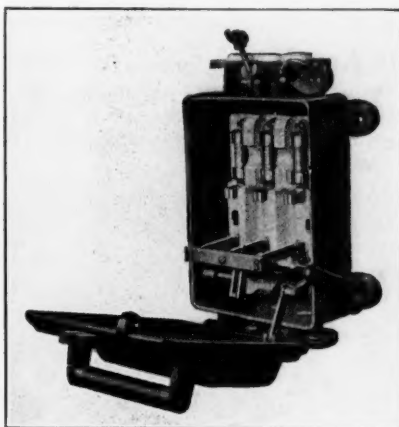


An electric range for the small apartments

These new kitchenette ranges include the same features which characterize other ranges made by this company. The surface "burners" take 660 watts each or may be furnished in 550-watt and 1100-watt ratings if desired. The oven burners are rated at 660 watts each. The cooking surface is 15 in. by 21 in. and the oven dimensions 10 in. by 10 in. by 12 in.

Combined Switch and Fuse Box

A fused switch box, which is particularly adapted to 250-volt, direct-current mill service, and which may be permanently locked after the fuses have been inserted, is being marketed by the D. & W. Fuse Company, Providence, R. I.



This switch may be operated with the box cover closed

When the cover is locked the circuit may be opened and closed by the use of a lever on the side of the box. Opening the cover automatically opens the circuit, which makes it impossible to replace fuses while the circuit is closed. Rubber gaskets are

provided for waterproofing, and when the terminal wires are taped at the bushings or protected by outlet hoods in the case of conduit fittings, the box is weather-tight.

Electrically Operated City Guide

A novel form of "electric directory," which has been installed by several New York hotels, serves the dual purpose of being an accurate city guide and an attractive advertising display. Below a large map of New York City are groups of push buttons, numbered up to 60. An accompanying index lists alphabetically the points shown on the map, and when a button is pressed a light appears on the map showing the desired location, while a red light indicates the hotel as



When a button is pushed the corresponding location is shown on the map by a small electric light

the starting point. The pressure of any button also automatically flashes on all the advertisements which flank the map.

The device is manufactured by the Electric Directory Company, Inc., 104 Fifth Avenue, New York City, which has copyrighted the accompanying illustration showing the "guide" installed in the Martha Washington Hotel, New York City.

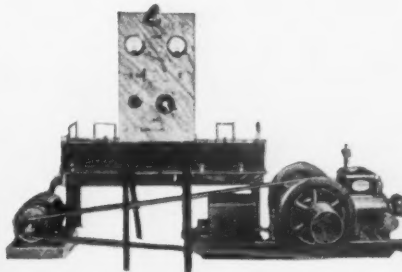
Storage Battery

The Vesta Accumulator Company of Chicago, Ill., has developed a method of locking the plates of a battery which it claims prevents warping under heavy electrical loads. The batteries are also furnished with impregnated wood separators, designed to prevent the formation of lead filaments in the pores of the wood and thus eliminate short-circuit of the plates from this cause. According to the manufacturer, the impregnating compound permits the separators to ab-

sorb the electrolyte as freely as untreated wood fiber, so a low-resistance path is afforded inside the battery by means of this construction.

Electric Lighting Plant

The Main Electric Manufacturing Company of Pittsburgh, Pa., has brought out a new 25-lamp electric lighting outfit which includes a gasoline-

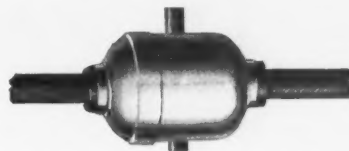


25-Lamp electric lighting outfit

engine operated flywheel-type generator rated at 40 volts and 15 amp., a thick-plate battery rated at 40 amp.-hr., and a switchboard equipped with a voltmeter, ammeter, automatic cutout, field-regulating rheostat, pilot lamp, etc. Both magneto and battery ignition are furnished for the engine. Extra heavy flywheels with crown faces are employed to permit using belt drive. One feature, to which attention is called by the manufacturer, is the use of an inclosed intake valve which permits this type of engine to satisfy the requirements of the Fire Underwriters.

Straight-Through Switch

The straight-through or feed-through switch manufactured by the Bryant Electric Company of Bridgeport, Conn., has recently been redesigned with a resultant improvement, it is said, in mechanical and electrical efficiency. Although the over-all measurements of the switch have been reduced, the current-carrying and breaking ratings are greater. The mechanism proper is securely mounted between two substantial porcelain blocks, the make-and-break mechanism of the knife-switch character being well protected in the center

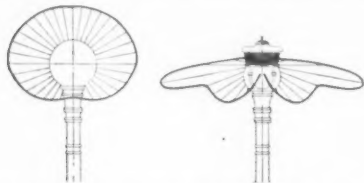


Straight-through or feed-through switch

thereof. The shell of the switch is provided with an interchangeable cap, so that, if desirable, the shell and body will fit into a cap which has been threaded onto and rigidly fastened to metal tubing.

Street Lighting Fixture That Throws Light Downward

The ornamental street-lighting fixture illustrated here was recently chosen for use in one of the suburbs of the city of Buffalo. In the old ball globe unit a large amount of light was wasted by being thrown upward, but a glance at the



At the left is shown the old ball globe, with its distribution curve. The same curve for the new light-saving unit appears on the right.

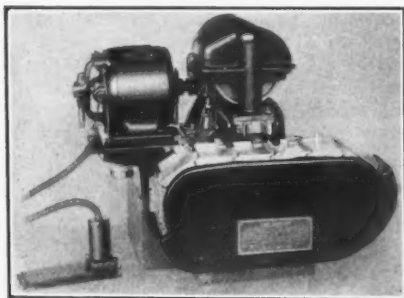
distribution curve of the new unit shows how this disadvantage has been met.

The fixture contains a prismatic refractor used to collect the upward rays of the 100-cp. Mazda lamp, redirecting this light outward at a slight downward angle, illuminating the street surfaces. The candle power of the lamp used may be varied to suit conditions. This outfit is the latest addition to the General Electric Company's type of outdoor lighting fixtures.

Motor-Driven Tag Marker

The marking of price tags in dry goods, and department stores particularly, is a slow and tedious task if done by hand. The motor-driven tag marker shown, which is manufactured by the H. G. Davis Manufacturing Company, 4131 Frankford Avenue, Philadelphia, Pa., will print 2400 tags per hour.

The mechanism of this tag marker, which is driven by a 0.05-hp. Westinghouse electric motor through a worm and gear, consists of a set of cams which move an endless chain of aluminum trays beneath a miniature type chase. The tags are printed as they move along on these trays. The trays are hand fed. A



This machine marks 2400 tags per hour

tag is placed in each tray beneath a clip which holds the tag in place from the time it is fed into the machine until marked by a downward movement of the type chase. This insures uniform register of the marking. When the tag is

printed it is automatically released from the clip and discharged from the tray at the end of the machine.

This tag marker is compact, portable, very quiet in operation, due to the worm drive, and weighs only 45 lb. It is finished in black japanned enamel, and all gears and mechanism are thoroughly protected. The motor leads are brought out through cord and plug for attachment to any lamp socket. In addition, a foot switch is provided by which the operation of the machine is controlled. This foot switch may be detached easily, thus preventing unauthorized persons from operating the machine and facilitating packing and storing the outfit.

Outdoor Conduit Fitting

An improved galvanized weatherproof fitting for outside conduit construction has been developed by the Utility Fittings Company, 812 Walnut Street, Philadelphia, Pa. This device is for use where a neat, short right-angle turn is



Y-type of conduit fitting for outside construction

necessary and can also be used for a pull box.

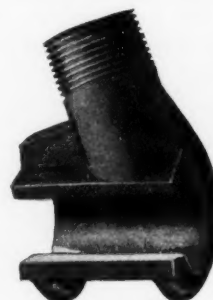
It has a smooth interior and well-rounded corners, which facilitate drawing of the wires and minimize chance of injury to the conductor insulation. The threads for the closure cap are on the exterior of the fitting. The closure cap has a smooth interior flange, which in connection with the smooth fitting is designed to produce a waterproof outlet box. The Y-type shown in the illustration is adapted particularly for conduit-service entrance to buildings.

Time-Limit Protective Plugs

Time-limit protective plugs in sheet-metal cases have been developed by the General Electric Company of Schenectady, N. Y., to be used in connection with drum-type and other small-motor starting switches. The case has a hinged cover and is provided with a hasp so that it can be locked closed. One-inch knockout holes for conduit wiring have been provided. The line from the starting switch to the motor can be broken at any point and protective plugs inserted. The plugs can be furnished for use with any alternating-current motor rated at any value up to and including 3 hp., 110, 440 and 550 volts, and 5 hp. on 220 volts.

Conduit Hickey

In the accompanying illustration is shown a conduit hickey which is designed to grip the conduit and will not slip. With this hickey conduit can be bent in



Non-slip pipe bender

awkward positions without denting it. Attention is called to the "non-slip" notches, the reinforced jaws and the convenient size. The end is threaded to take a 1-in. pipe coupling. Any scrap length of 1-in. pipe can be screwed thereon for a handle. This device is made by M. B. Austin & Company, Chicago.

Snap Switch

The Chelton Electric Company of Philadelphia has developed a quick make-and-break snap switch, in which all wearing parts are of case-hardened steel. The current-carrying parts are of brass and phosphor bronze. The porcelain portion is light in weight and strong mechanically. The switch is furnished with either a round button or a winged button. These switches are made in single-pole, double-pole, and three-way types, with indicating or non-indicating attachments, and are rated at 3 amp., 250 volts, and 5 amp., 125 volts.

Heating Unit for Electric Range

The Rutenber Electric Company of Marion, Ind., has developed a heating unit of the open-coil type for its ranges.



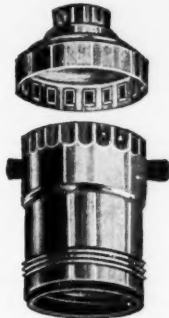
Clover-leaf type of heating unit for electric range

The resistance elements are arranged in two double clover-leaf patterns, one larger than the other, nichrome wire being used and laid in deep wide grooves in a fire plate 1 in. thick and 8 in. in diameter. With this arrangement ex-

cellent radiation is permitted and the centers of the coils are prevented from being the hottest points. No long coils are exposed; each coil is pinned down at each turn, so that it is impossible for a coil to get out of its groove or expand and possibly become short-circuited by a metal vessel making contact with two coils.

Push-Through Socket

The push-through socket, manufactured by the Arrow Electric Company of Hartford, Conn., has a quick make-and-break switch mechanism and a rat-



This socket is interchangeable with fifteen different caps

ing of 660 watts, 250 volts, which is usual with this type of socket.

It has the advantage of being interchangeable with fourteen different body parts and fifteen different caps.

This socket has the threaded bead for "Uno" shade holders, and can be equipped with a locking attachment to prevent the removal or theft of lamps.

Electric Radiator

The electric radiator shown in the accompanying illustration has been developed by the Rutember Electric Company, Marion, Ind., for use in bathrooms, offices, moving-picture cashiers' offices,



Portable electric radiator

and other similar places. The radiator is built in sizes rated from 660 watts to 2000 watts, according to the amount of space to be heated. It is finished in polished nickel and is furnished with or without a control switch.

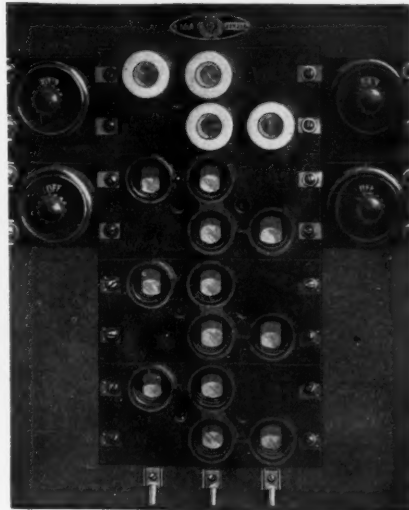


Fig. 1—Panel carrying eight circuits

Safety Panel Cut-Out

A panel cut-out, which is said by its manufacturer to combine the simplicity of the porcelain cut-out with the finished appearance of a busbar type of panel has been developed by the Chicago Fuse Manufacturing Company.

The cut-out does away with the many exposed live parts and the possibility of poor contact between copper parts. The method of installing it is shown in the accompanying illustration, which represents a panel carrying eight circuits, four with switches and four without switches. On the panel are mounted three busbars over which are mounted the safety cut-outs, each being firmly attached to the panel by two screws. Three grooves in the base of the cut-out which measure $\frac{1}{8}$ in. deep by $1 \frac{1}{32}$ in. wide, are provided to admit the busbars between the panel and the cut-out. These grooves are separated by the required 0.75-in. space. When the fuse plugs are screwed into the cut-outs they make firm contact with the busbars. All connections between the shells and the terminals are embedded in the body of the cut-out and are completely concealed. The cut-out block itself is made from an approved composition with high mechanical and dielectric strength. It will withstand a temperature of 400 deg. Fahr., without injury, it is claimed.

The advantages of this safety panel cut-out, as set forth by its manufacturer, are that it is practically indestructible, that it has a dead-front feature, that it has the approval of the Underwriters' Laboratories, that it has high dielectric

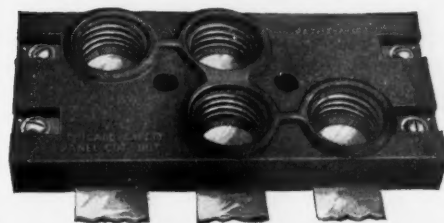
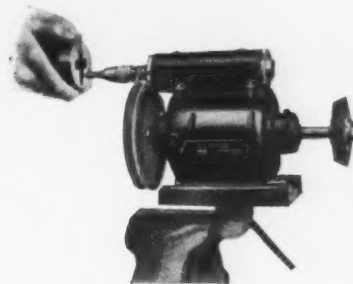


Fig. 2—Section of safety panel

strength and great heat resisting qualities, that it is simple and can be quickly built up for any number of circuits, that it has a neat and finished appearance.

Electric Grinder Attachment

To meet the demand for special tools to regrind button dies, the Wisconsin Electric Company of Racine, Wis., has developed a special attachment for use in connection with its "Dumore" portable grinder. The attachment has a spindle speed of 50,000 r.p.m., made possible by dynamic balancing and the use of ball bearings. In the picture a round carbundum pencil ($\frac{3}{8}$ -in. diameter) is

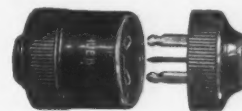


Portable electric grinder

seen held in a special hardened chuck. These pencils may be dressed down to various sizes so they will enter and grind through the four holes in the die. The manufacturers of the "Dumore" claim that a die reground in this way cuts a better and cleaner thread than a new die.

Three-Wire Composition Cord Connector

Harvey Hubbell, Inc., of Bridgeport, Conn., has added to its three-wire line of apparatus a 10-amp. cord connector, shown in the accompanying illustration. This connector is used for permanently linking up installed wall or flush receptacles with portable machines, appliances and laboratory apparatus wired for three-wire service. The composition cap of this connector is interchangeable with all of the three-wire attachment plug bases, wall receptacles and flush receptacles made by this company. A small composition cord connector of durable construction has also been brought out to be used in connection with the Hubbell

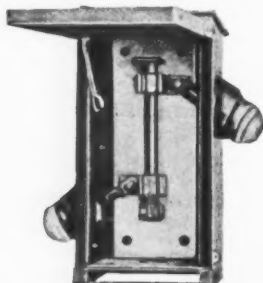


10-Amp. cord connector

line of interchangeable attachment plugs, wall and flush receptacles. The cap of this device is interchangeable with both polarized and non-polarized Hubbell wall and flush receptacles, as well as the line of small attachment plugs.

Combined Fuse and Switch

W. N. Matthews & Brother of St. Louis, Mo., point out several improvements that are embodied in the combination fuse and switch shown in the accompanying illustration. The rating of the device has been increased from 60 amp. to 100 amp. The maple fuse carrier

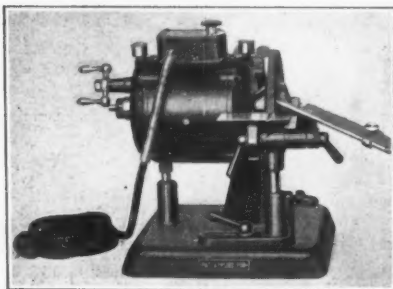


Combined switch and fuse box

ordinarily used with such switches is eliminated and the switch blade and fuse cartridge are combined in one piece. This type of fuse switch is much lighter than types formerly made. The inclosing box has an asbestos board bottom and roof, which, it is claimed, cannot crack, warp or check as wooden roofs do. In case the switch blades are not pushed fully into the contact jaws the door will complete the operation when it is closed. This feature, it is claimed, also prevents the blade from jump-out of the jaws. In case an unusual explosion of the fuse occurs (as during lightning) and gases cannot get out of the bottom vent hole quickly enough, the door will fly open and automatically shut itself again, thus relieving the pressure on the box and saving it from damage. The boxes are also safer for the linemen to operate, the manufacturer points out.

Motor-Driven Grinders

The Universal Electric Company of Newark, N. J., is marketing a line of motor-driven grinders with motors wound



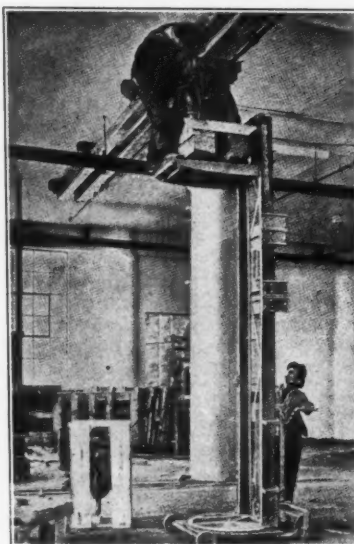
Combination drill, tool, and tool post grinder

for all commercial voltages and frequencies in the universal type and for direct or alternating current. Attention is called to the improved type of starting switch which consists of three contact brushes, arranged with all working parts

covered. The rotor can be removed or reassembled without any of the difficulties encountered in rotors with lever-type switches, it is claimed. In the accompanying illustration is shown a combination of drill, tool, and tool post grinder. The motor is rated at 0.25 hp., 3550 to 3575 r.p.m., and the size of the grinding wheel is 6 in. by 0.5 in.

Elevator for Installing Motors Overhead

Installing from four to six motors in the time usually required for one, using ordinary methods, is the performance claimed by the New York Revolving Portable Elevator Company, Jersey City, N. J., for its "Revolator." The device elevates and holds the motor in place



Installing overhead motor with elevator

until it is attached to the ceiling. The machine can also be used for inspecting the motors, taking them down for repairs, repairing pulleys, and for putting up shafting. This machine consists essentially of two uprights or elevator guides, an elevating platform, and a revolving base which can swing around on its ball-bearing center like a turntable. The machines are built from 6 ft. to 20 ft. in height. All machines 7 ft. and larger have the frame hinged so that the top section may be folded over.

Automatic Cut-Out

Automatic cut-outs for the protection of batteries used in connection with isolated lighting-plant systems and also in charging lighting, ignition and storage batteries in garages and service stations have been developed by the Hartman Electrical Manufacturing Company of Mansfield, Ohio. The cut-out shown herewith has a carrying capacity of 50 amp. and is adapted to 32, 65 or 110 volts—the standard pressures used in isolated lighting-plant systems.

Two separate windings are used—a fine wire or shunt coil, which is connected across the generator and which closes the circuit as soon as the generator voltage rises to a predetermined point, and a series coil which comes into action as soon as the charging circuit is closed. The latter assists the shunt coil in hold-



Battery-charging cut-out

ing the contact in the closed position. The moving contact is in the form of a cupped and slotted disk and is directly connected to the solenoid core so that the full pull of the core is directly exerted on the contact. The contact is opened by gravity.

Lighting Unit

A crystal glass unit for large type C lamps which, it is said, is both "non-glaring" and highly efficient has been added to the line of lighting units developed by the Holophane Glass Company, Inc., New York City. The glass is in two parts—the upper being a prismatic reflector that reflects the upward light of the lamp in a downward direction similar to the regular Holophane prismatic reflectors. The lower section consists of concentric prisms that serve the double purpose of shielding the lamp filament from the eye and also re-directing the light at an angle of about 45 deg. To decrease the glare and to



Reflector-refractor unit for type C lamps

improve the appearance of the unit, the inner surface is provided with a special velvet finish. The two parts are securely held together by small nickel-finished clamps that engage with the horizontal prisms.



GOSSIP OF THE TRADE

Illinois Commercial Men Meet at Peoria

"Salesmanship," a talk by A. F. Siebert of the Dayton Insulating Die Company, proved to be a feature of the meeting of the new-business co-operation committee of the Illinois State Electric Association at Peoria on April 27. Besides analyzing the factors of "approach" and "consummation" of the actual sale, Mr. Siebert's talk showed him to be an advocate of perpetual service and complete satisfaction with every sale.

Norman B. Hickox of Chicago talked semi-technically about window lighting, and in the discussion that followed the members deplored the methods of those central stations which are prone to spend less care and thought upon window lighting than upon residence work.

How the Public Service Company of Northern Illinois boosted sales on wall and floor outlets by increasing salesmen's commissions on these portals of power was explained by F. H. Scheel of Joliet, Ill. Commissions on other outlets were reduced so that the average commission remained practically unchanged.

John G. Learned pointed out that if construction material prices remain at the present level, companies will be forced to put more intensive effort on getting business in the territory served by existing lines.

E. C. Forest of Rockford opened the symposium on sale and upkeep of electrical merchandise and outlined the policies open to the central station in establishing an appliance department. George E. Dunn then discussed store arrangement.

Low temperature oven equipment was L. H. Knapp's topic in the electric heating symposium. B. G. Tarkington of Jackson, Mich., took up electrical brass and steel melting and told how this business may be secured.

Enthusiasm for electric cooking possibilities in Illinois was shown by

J. Paul Clayton of Mattoon. He declared that in those cities of the State not supplied with gas there is a possible annual electric cooking revenue of \$3,600,000, and that in three years he expects to see the central stations getting \$1,000,000 of that budget.

New York Electrical Jobbers Form Club

The Electrical Club of Greater New York has been organized by a number of metropolitan electrical jobbers with the following officers:

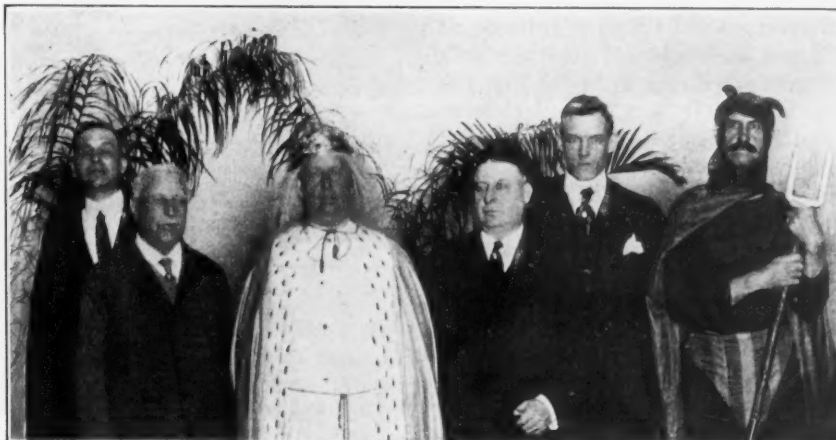
Chairman, Charles P. Scott of the Royal-Eastern Electrical Supply Company; secretary, W. J. Kranzer of Crannel, Nugent & Kranzer; executive committee, J. E. McClernon of

Until the organization of the new club is completed the jobbers plan to hold meetings each Tuesday evening and later at fortnightly intervals.

Ohio Sales Managers to Discuss Means of Increasing Net Income

The following program has been arranged for the May meeting of the new-business co-operations committee of the Ohio Electric Light Association, at Youngstown this month:

Address of welcome, by R. T. Sullivan, general manager, Mahoning & Shenango Railway & Light Company, Youngstown; "Promotion of Appliance Sales," by C. H. Felker, sales manager, Columbus Railway, Power & Light Company; general discussion on what is being done in the sales department to help overcome increased operating costs and the necessity of increased rates to maintain net income; luncheon address by Charles A. Leedy; "The Sale of Company Stock to Employees and Customers," by T. O. Kennedy, general manager, Massillon



In this rare and hitherto unpublished print showing the Jovian uppercrust of New Orleans, W. A. Porteous appears in his new ermine robes for which he was recently surveyed by the local tentmaker. On the Jupiter's left, N. E. C. A. members will please note the first likeness of President Robley D. Stearnes to be taken since the furnace in his home back-fired. His mustache, the pride of a quarter-century of Mardi Gras parades, caught fire and was a total loss. No insurance was carried and rebuilding has not yet begun. At the extreme left of the picture W. E. Clements, sales manager of the New Orleans Railway & Light Company, stands behind Colonel J. H. DeGrange, whose public utility service dates almost back to the days of Ponce de Leon and Major Pontchartrain. On the right, next to Robert Belasco Spangenburg, the man with the big cheese-spear, stands W. J. Aicken, Jr., general manager of the Consumers Electric Company, New Orleans.

the Northwestern Electric Equipment Company, Charles B. Bentz of Holloway, Bentz & Company, James J. Hartt of Hartt & Morrison, C. P. LaSelle of W. R. Ostrander & Company, and H. H. Kobat of the Independent Electrical Supply Company.

(Ohio) Electric & Gas Company; "Electric Furnaces," by C. I. Crippen, Mahoning & Shenango Railway & Light Company, Youngstown, Ohio; inspection trip to Lowellville.

J. E. North of Springfield heads the new-business co-operation committee.

Indiana New-Business Men to Meet at Fort Wayne

The new-business committee of the Indiana Electric Light Association, of which O. M. Booher of Kokomo is chairman, is making arrangements for a live convention and get-together meeting at Fort Wayne, Ind., on June 20. The following papers will be presented: "Increasing Load Factor on Existing Lines," by N. A. Perry of Indianapolis; "Organization of a New-Business Department," by Thomas Donohue, Lafayette, Ind.; "Sales Developments of Socket Appliances," by M. Milton Henoeh, Pittsburgh, Pa.

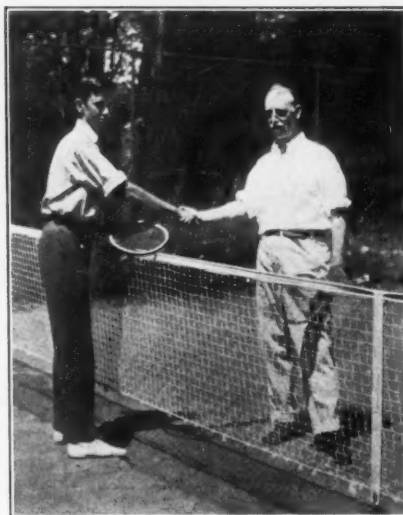
* * *

The Safety Armorite Conduit Company has removed its New York office to 511 West Twenty-seventh Street, where the new quarters occupy space in connection with the company's warehouse. Associated with William G. Campbell in the New York office are Victor F. Gates, William F. Dime-low and George Pettengill.

The Hudson Electric Club has been formed by electrical dealers and contractors of Hudson County, N. J., as an outgrowth of the helpful meetings the men have held in connection with "Wire-Your-Home Time." The following officers have been chosen: President, H. J. Rietze, Jersey City; first vice-president, A. L. Hildner, Weehawken; second vice-president, H. A. Schuller, manager of the Bayonne Electric Company; third vice-president, Samuel Gross, Hoboken; secretary, William Doellner, Jersey City; treasurer, Frank DeWitt, Jersey City; sergeant-at-arms, B. Moser, Jersey City. Membership is open to anyone connected with the electrical industry in any way.

United States Expansion Bolt Company of New York City has announced the purchase of the plant of the Columbia (Pa.) Malleable Iron & Steel Company, which will be used as a foundry. The rapidly increasing demand for the company's product has led it to acquire its own foundry and the Columbia property is especially adapted for the economic production of small malleable iron castings. According to L. R. Zifferer, vice-president and general manager of the U. S. company, the operation of its own foundry will enable it to do better and more work.

The Gainaday Electric Store has been opened by the Pittsburgh Gage & Supply Company, at 522 Penn Avenue, Pittsburgh. The primary object of the company in opening this retail department, it is explained, will be to push the sale of Gainaday electric washers and wringers locally, and it is also the company's intention to add a complete line of labor-saving electrical household devices.



When Frank W. Smith closes the door marked "Vice-President and General Manager" in the New York office of the United Electric Light & Power Company and skips to his summer home in Beavertown, N. Y., he takes with him his big aim in life—net results. Mr. Smith is also famous as an electric-vehicle booster, as chairman of the N. E. L. A. lamp committee, and as the oldest living subscriber to ELECTRICAL MERCHANDISING, his response to our first faint cry for subscriptions having topped the office mail that sunshiny day in June, 1916, so long, long ago.

W. S. Mendenhall, who for the last seven years has been commercial manager of the Grays Harbor Railway & Light Company, Aberdeen, Wash., has resigned to go into the printing and bindery business. Mr. Mendenhall entered the employ of the Grays Harbor Company as salesman and worked up through the ranks to become head of the commercial department. He expresses regret at leaving the electrical field with its great industrial opportunities, but is taking advantage of an opportunity to go into business for himself.

The Armstrong Construction Company has been incorporated at Lansing, Mich., and will do a general electrical and contracting business. The headquarters of the company will be in the Prudden Building, Lansing. The officers are E. A. Arm-

strong, president; Arthur R. Sawyer, vice-president; Charles W. Armstrong, secretary and treasurer.

Frank B. Jewett, chief engineer of the Western Electric Company, has received a captain's commission in the Signal Reserve Corps, U. S. A. In a recent issue of the *Army and Navy Journal* the following comment is made upon Mr. Jewett's selection: "The selection of Mr. Jewett is regarded as particularly fortunate. He is at the head of the research department of the Western Electric Company, which manufactures the greater part of the communication equipment used in the Signal Corps."

The V. V. Fittings Company of Philadelphia, Pa., has issued a new booklet describing its several types of safety switches.

George B. Tripp has resigned as vice-president of the United Gas & Electric Engineering Corporation of New York City, in order to assume the duties of president of the Central Construction Corporation at Harrisburg, Pa.

The Binger Company, 53 West Twenty-third Street, New York City, has taken over the selling agency for the Mystic window-display device formerly sold by the New Method Advertising Corporation, 47 West Thirty-fourth Street, New York City.

The Robbins & Meyers Company, Springfield, Ohio, has a new product known as the *R & M Breeze*. Ralph C. Busbey is editor of the new house organ, and has filled the first issue with attractively written company news and thought-stimulating notes.

The Telephone Society of New York has announced that the June meeting of the organization will be abandoned owing to the national situation. The date of the next meeting will depend entirely upon the developments of the future.

Henry L. Doherty's wide and appreciative circle of friends is not confined to the electrical industry. Mr. Doherty has spent a large part of the present winter in Kansas City and the head bellboy of one of that city's hotels recently had this to say of him: "Say, that Mr. Doherty, he's the biggest man we've had here. Regular fellow, too. Easy to talk with? Why, mister, he's just as democratic as if he didn't have any millions at all!"

Frank M. Hawkins, who has been managing representative of the Crouse-Hinds Company in the New York territory since 1897, has retired from detail sales work in order to investigate business possibilities for the firm abroad. Before joining the Crouse-Hinds organization, Mr. Hawkins spent several years with the Electrical Engineering and Supply Company of Syracuse, N. Y., where his work ranged from selling fittings to installing complete plants and took him all over the United States and Canada.

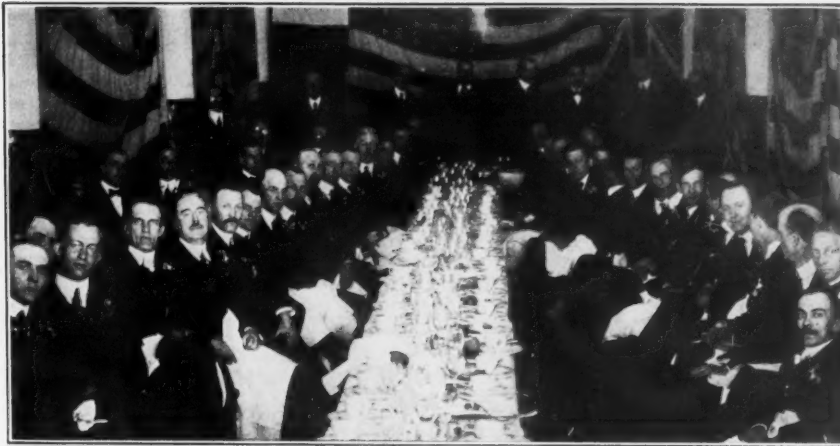
The Burke Electric Company of Erie, Pa., has opened a branch sales office at 424 Union Trust Building, Washington, D. C., exclusively for the United States government service during the war. J. N. Perry is in charge of the new branch.

H. B. Kanter and W. F. Austin have dissolved partnership under the firm style of Austin & Kanter, and Mr. Kanter has formed the H. B. K. Electric Company with headquarters at 92 Jackson Avenue, Long Island City, N. Y., where he will do a general electrical contracting, engineering and maintenance business. Mr. Kanter invites manufacturers and jobbers to send him catalogs.

I. I. Hance, who for the last ten years has been well known in the illuminating field, has just been appointed illuminating engineer with the Goodyear Tire & Rubber Company at Akron, Ohio. Mr. Hance will have complete charge of the rearrangement of the lighting of the company's plants at Akron, Rio Ja-



Here we see two electrical men driven to eat fire-cooked food in the unwired wilderness. They are R. H. Ballard of the Southern California Edison Company, and Samuel Kahn, who general-manages the Western States Gas & Electric Company at Stockton, Cal.



Officials of the Rathbone-Sard and General Electric companies gathered at the banquet April 30, when the new electric range factory of Rathbone, Sard & Company, at Albany, N. Y., was formally opened. The Rathbone-Sard Company, by the way, has been making cook stoves of one kind or other for the last eighty-five years, and, following its policy of keeping up to date, is now building the electric kind, besides various electric cooking appliances. The officers of the new Rathbone-Sard Electric Company are: President, R. E. Sard; vice-president and general manager, H. P. G. Norstrand; vice-president and sales manager, J. F. Killeen, and secretary-treasurer, A. M. Blanchard.

neiro and Ottawa, as well as of the company's many sales offices. Mr. Hance was formerly connected with the Western Electric Company at its New York and Richmond (Va.) offices, and later became sales manager for the Luminous Unit Company, manufacturer of Brascolite products.

Stanley M. Tracy has been appointed assistant general sales manager of the Driver-Harris Wire Company, with headquarters at Harrison, N. J. He was formerly district manager of the firm, with headquarters at Chicago.

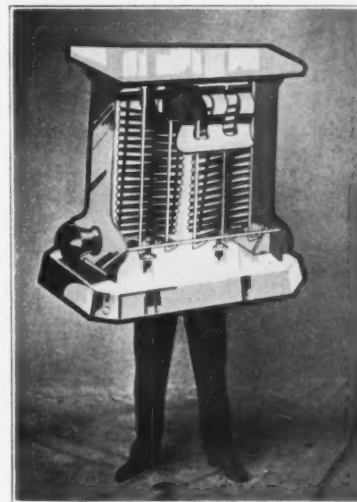
C. E. Burger has been appointed assistant sales manager of the Western Electric Company's San Francisco office.

The Rathbone-Sard Electric Company, Inc., Albany, N. Y., opened its new factory for the manufacture of Acorn electric ranges on Monday, April 30. The Rathbone-Sard Company has been in the stove business for eighty-seven years; in the early days making coal stoves for cooking, then branching into the gas-stove business and now, with the incorporation of a new branch company, the Rathbone-Sard Electric Company, Inc., the old concern takes the next step in the development of appliances for cooking. The new plant is a modern structure, 50 ft. by 200 ft. and three stories high. In this plant the range frames and ovens will be built and assembled with the electric heating units which are made at the

Pittsfield Works of the General Electric Company. The building was opened with a dinner given by the officers of the new company to members of the executive staff of the Rathbone-Sard Company and the General Electric Company.

James Coles has been appointed new-business representative of the Interstate Light & Power Company of Galena, Ill.

R. B. Jennison has been appointed vice-president and general manager of the Pennsylvania Utilities Company, Easton, Pa.



A mahogany horn may tone up the honied strains of a Caruso record, but its tonic function fades before the euphonic filters used on the quartet at the convention of the Pacific Coast Section of the N. E. L. A. at Riverside, Cal., last month. Each of the singers was surmounted by an electric appliance like this—a masterpiece of the scene-painter's art.



Electric washing machines will have a showing hereafter in any military equipment specified by Officer Claude Matthews, whose title on a peace footing is vice-president and secretary of W. N. Matthews & Brother, St. Louis, Mo. The picture shows Private Claude on a sunny Monday during the encampment of the Sixth Regiment at Plattsburg last season.

William D. Ray, for the last two years vice-president and general manager of the Pennsylvania Utilities Company at Easton, Pa., was on April 17 tendered a banquet at the Pomfret Club, Easton, by a number of his friends among the leading business and professional men of the city, following his retirement from active charge of the local electric and gas properties. Several complimentary speeches were made, and



"Go'n' out to get photographed and, gosh, how they dread it!" Beg your pardon, Mr. MacGregor and Mr. Cotharin, but you of the Merchants' Heat & Light Company, Indianapolis, can rest easily now. Lightning and our staff photographer seldom strike twice in the same place.

Mr. Ray was presented with a gold watch as a token of the esteem of the community.

C. H. Holden has been appointed central district manager for Edwards & Company, Inc., of New York City, and has established a sales office at 9 South Clinton Street, Chicago, Ill. Mr. Holden will devote his time exclusively to the Edwards' line of electrical house goods and fire-alarm and signal apparatus. Mr. Holden was formerly sales manager for the P. R. Manufacturing Company of Detroit, Mich., and has had much experience in the sale of electrical specialties.

The New York Office of Underwriters' Laboratories has been moved to the twelfth floor of the Evening



Roy Wooley had this picture taken for his passports when he sailed away last month to volunteer for service with the Allies. Some of our readers may themselves run across Roy "somewhere in France" before long, and so get a chance to listen to some of the best stories that any sales manager for the Standard Electric Stove Company of Toledo ever told.

Mail Building, 25 City Hall Place, New York City. The new quarters will include the offices formerly at 135 William Street and the testing station formerly at 92 Vandam Street. The New York office now has a force of twelve inspectors engaged in factory inspection and label service work, and a corps of electrical engineers engaged in the testing of new appliances. The Eastern office is under the direction of Dana Pierce, vice-president.

"Industrial Heating as a Central-Station Load" is the title of a new booklet in two parts published by the Society for Electrical Development, New York City, which gives in compact form for ready reference, facts and data on the various uses and applications of commercial electric heating as practiced in the United States to-day. The data relate to the high-temperature furnaces of the metal industries, as well as various



This is the business card of T. Kettle who (honest, no kiddin') is chief assistant to Sales Manager Young of the Minneapolis General Electric Company. Mr. Kettle says these cards help him sell—especially electric cooking appliances. 'Tis many a housewife that knows the reliability of the old-fashioned tea kettle, sez he.

forms of electric heaters, which already have found wide application in large and varied industrial fields.

F. L. Leitner, storekeeper of the Brooklyn Edison Company, spoke before the local A. I. E. E. branch in the Mailloux Library at the Polytechnic Institute of Brooklyn, April 20, on the subject "Handling Supplies for Central Stations."

The Export Managers Club of New York has been formed with Robert J. Smyth as secretary and with headquarters at 25 Church Street, New York City, to further the interests of American manufacturers in export trade, and to promote the development and efficiency of American export business in reaching the markets of the world. Fred S. Phillips of the American Ever Ready Works, Long Island City, N. Y., is first vice-president of the club, and Mr. Smyth, the secretary of the Export Manager's body, is the repre-



Samuel Smiles, for example, seldom smole. Similarly, J. J. Shivers is one of the warmest-hearted and sunniest-dispositioned of Georgia's hospitable electrical boosters. And whether he goes gunning for quail or for new business for the Carter Electric Company of Atlanta, of which he is vice-president and general manager, he brings in results by the armful. Mr. Shivers' father-in-law helped him bring down these seventy-five Bob Whites in one day's shoot.

sentative for the export trade of several electrical manufacturers.

W. Cainer, J. A. Savage, Jr., and A. E. McGeehan are the incorporators of the Orange (N. J.) Electric Garage Company, a \$50,000 corporation, proposing to do a general automobile business in Orange and East Orange.

The Electric Signal Company, 1307 Sutter Street, San Francisco, Cal., is now carrying on the business of manufacturing pilot lamps formerly conducted by the E-H Electric Company, Inc., 1405 Bush Street, San Francisco, Cal.

The Standard Radio Apparatus Company of Ocean Park, Cal., announces its entrance into the manufacturing wireless field on a large scale. The firm is issuing a two-year guarantee on all apparatus.

Samuel H. Taylor of the Electric Railway & Manufacturers Supply Company, Oakland, Cal., was elected chairman of the Electrical Supply Jobbers' Association at its Del Monte (Cal.) meeting.

E. G. Robinson, the former president of the Northwest Electric Light & Power Association, has purchased the Molalla Electric Company of Canby, Ore. This company serves a number of towns in that vicinity, and Mr. Robinson's time will be devoted to the management and development of the newly-acquired property.

J. R. M. Gard, who sells electrical apparatus in Philadelphia, has taken quarters at 201 North Thirteenth Street.

C. L. Bixler, who was formerly superintendent of light and power with the Northern Ohio Traction & Light Company at Akron, Ohio, has resigned to enter the industrial electrical field, specializing in the elec-



Carl Schluederberg believes in accuracy whether engaged in his duties as central station representative of the Westinghouse company or in making collenders out of rifle range targets.



All the Nela Park bigwigs, like S. E. Doane, F. S. Terry, B. G. Tremaine, N. H. Boynton, A. H. Winslow, M. Luckiesh, etc., have been going in for gym work this spring. Besides medicine-ball exercises and floor calisthenics, some controversy concerning fistic prowess recently arose in the class, being settled when Winslow, who is auditor of the National works, planted this right cross on the jaw of P. C. Lynch, manager of the Nela operating department just as our photographer happened along. P. J. Pritchard, who is responsible for lamp making at Nela and a firm believer in safety first, appears as referee. Behind him stands "Doc" Luckiesh, of daylight-lamp fame, Winslow's second. Behind Lynch witness A. H. Stricker, chief statistician, who counts all the lamps made by the National lamp works.

trification and operation of rubber working plants.

The Electric Wiring Company, Cleveland, Ohio, has moved from its office at 407 Columbia Building to a store location on the ground floor of the East Second Street side of the same building.

The Friedley-Voshardt Company, 733 South Halsted Street, Chicago, has issued a handsome new illustrated catalog showing its indirect lighting bowls, semi-indirect rings, shower plates, canopies, brackets, body fixtures, copper lanterns and brass stampings used by the chandelier trade.

O. A. Acuff, commercial manager of the Massillon (Ohio) Electric & Gas Company, has started a movement among the Jovians of Stark County, which includes the cities of Massillon, Alliance and Canton, to illuminate the 33-mile section of the Lincoln Highway which passes through the county. The estimated cost will be \$4,000 a year. The National Jovian Order will be asked to support the movement to illuminate the entire length of the Highway, and it is believed that if the first 33 miles through Stark County can be lighted the necessary impetus will be given to illuminate the entire length of this great national thoroughfare.

Henry F. Holland has resigned as manager of the electric range department of the Great Western Power

Company, San Francisco, Cal., and has returned to Los Angeles, his home address being 1928 Highland Avenue, Hollywood. Mr. Holland, who is well known throughout the electrical industry of the country, was formerly Pacific Coast representative of the Simplex Electric Heating Company, and has been active in Jovian circles in California. Mr. Holland's plans for the future are yet undecided.



Sundry contractors, and friends, of Newark, N. J., Sundaying at Camp Electra on Greenwood Lake in order to forget to be competitors. They are, reading from right to left—top row, Alfred Sommes, George E. Eichorn, a stranger, and Shellman Stewart. H. C. Heidrich, W. J. Martin and Harry Radford are seen lying down.

Record of Lighting Fixture Patents

Design Patents

The following are ALL the design patents pertaining to lighting materials, issued by the U. S. Patent Office between March 27 and April 27, 1917, inclusive:

50,564. Light Globe. Ferd S. Barbiers, Lancaster, Ohio, assignor to the Hocking Glass Company, Lancaster, Ohio. Filed Feb. 14, 1917. Issued April 10, 1917. Term, seven years.

50,600. Arm Pan for Lighting Fixtures. Robert Y. Barrows, Rutherford, and George V. Strahan, Newark, N. J., assignors to the Mitchell Vance Company, New York, N. Y. Filed Jan. 20, 1917. Issued April 17, 1917. Term, seven years.

50,603. Illuminating Globe. Kraft Booth, Philadelphia, Pa., assignor to Gillinder & Sons, Inc., Philadelphia, Pa. Filed Jan. 2, 1917. Issued April 17, 1917. Term, seven years.

50,604. Illuminating Globe. Kraft Booth, Philadelphia, Pa., assignor to Gillinder & Sons, Inc., Philadelphia, Pa. Filed Jan. 2, 1917. Issued April 17, 1917. Term, seven years.

50,634. Canopy for Gas and Electric Fixtures. Benjamin Schwartzman, Brooklyn, N. Y., assignor to Samuel Shapiro, Joseph Shapiro, Solomon Shapiro, Dave Sha-

piro and Morris Berman, New York, N. Y., co-partners doing business under the name of Reliance Metal Spinning Company, New York, N. Y. Filed Jan. 12, 1916. Issued April 17, 1917. Term, three and one-half years.

50,636. Light Fixture. Simon Tepper, Brooklyn, N. Y., assignor to the Universal Metal Spinning & Stamping Company, New York, N. Y. Filed Jan. 12, 1916. Issued April 17, 1917. Term, three and one-half years.

50,642. Candlestick for Altars. George R. Bailey, Brooklyn, N. Y., assignor to the Sterling Casket Hardware Company, Brooklyn, N. Y. Filed March 7, 1917. Issued April 24, 1917. Term, seven years.

50,675. 50,679. Arm for Lighting Fixtures. Robert Y. Barrows, Rutherford, and George V. Strahan, Newark, N. J., assignors to the Mitchell Vance Company, Inc., New York, N. Y. Filed March 3, 1917. Issued May 1, 1917. Term, seven years.

50,676. 50,677. 50,678. 50,680. Wall Plate for Lighting Fixtures. Robert Y. Barrows, Rutherford, and George V. Strahan, Newark, N. J., assignors to the Mitchell Vance Company, Inc., New York, N. Y. Filed March 3, 1917. Issued May 1, 1917. Term, seven years.

50,684. 50,685. Lighting Fixture. Edwin F. Guth, St. Louis, Mo., assignor to the Luminous Unit Company, St. Louis, Mo. Filed Feb. 26, 1917. Issued May 1, 1917. Term, seven years.

50,680. Gravity Clamp for Light-Reflecting Bowls. Charles Ernest Jones, Chicago, Ill. Filed Feb. 5, 1917. Issued May 1, 1917. Term, three and one-half years.

50,690. Rosette Clamp for Light-Reflecting Bowls. Charles Ernest Jones, Chicago, Ill. Filed March 6, 1917. Issued May 1, 1917. Term, three and one-half years.

50,691. Chain Support for Chandeliers. Charles Ernest Jones, Chicago, Ill. Filed March 6, 1917. Issued May 1, 1917. Term, three and one-half years.

50,692. Extension Bracket for Lighting Fixtures. Charles Ernest Jones, Chicago, Ill. Filed March 6, 1917. Issued May 1, 1917. Term, three and one-half years.

50,693. Electric Bracket Back. Charles Ernest Jones, Chicago, Ill. Filed March 12, 1917. Issued May 1, 1917. Term, three and one-half years.

50,695. Clamp for Light-Reflecting Bowls. Charles Ernest Jones, Chicago, Ill. Filed March 12, 1917. Issued May 1, 1917. Term, three and one-half years.

50,696. Scroll Clamp for Light-Reflecting Bowls. Charles Ernest Jones, Chicago, Ill. Filed March 12, 1917. Issued May 1, 1917. Term, three and one-half years.

50,697. Arm for Chandeliers or Brackets. Charles Ernest Jones, Chicago, Ill. Filed March 12, 1917. Issued May 1, 1917. Term, three and one-half years.

50,698. Bracket Arm for Lighting Fixtures. Charles Ernest Jones, Chicago, Ill. Filed March 19, 1917. Issued May 1, 1917. Term, three and one-half years.

Structural Patents

1,221,050. Hanger for Light-Reflecting Bowls. Charles J. Jones, Chicago, Ill., assignor to Metal Arts & Crafts Company, Chicago, Ill. Filed Oct. 31, 1914. Issued April 3, 1917.

1,221,277. Precautionary Sign. Edgar H. Bostock, Nutley, N. J., assignor of one-half to Mansfield & Company, New York, N. Y. Filed Feb. 15, 1916. Issued April 3, 1917.

1,221,744. Shade Holder. Herbert Kienzle, New York, N. Y. Filed July 15, 1916. Issued April 3, 1917.

1,222,573. Portable Incandescent Lamp. Martin Claussen and William A. McKay, San Francisco, Cal. Filed March 3, 1915. Issued April 10, 1917.

1,222,676. Electric Candlestick. Andrew J. Sanford, Newark, Ohio, assignor to A. H. Heisey & Company, Newark, Ohio. Filed June 24, 1913. Issued April 27, 1917.

1,222,915. Electric Light Stand. Robert D. H. Anderson, Boston, Mass., assignor to Frank Ridlon Company, Boston, Mass. Filed June 24, 1913. Issued April 17, 1917.

1,223,130. Device for Suspending Light-Reflecting Bowls. Edwin L. White, Brooklyn, N. Y., assignor to J. H. White Manufacturing Company, Brooklyn, N. Y. Filed Dec. 14, 1916. Issued April 17, 1917.

1,223,305. Illuminating Attachment for Razors. Katherine E. Allport, Chicago, Ill. Filed March 16, 1916. Issued April 17, 1917.

1,223,532. Lamp Hanger. Allison J. Thompson, Cleveland, Ohio. Filed Jan. 3, 1916. Issued April 24, 1917.

1,223,865. Electric Conduit Fitting. Daniel C. Gidley, Winthrop, Mass., assignor to Crouse-Hinds Company, Syracuse, N. Y. Filed April 10, 1916. Issued April 24, 1917.

1,224,037. Electric Sign. Spencer E. Swancutt, Stevens Point, Wis. Filed June 27, 1916. Issued April 24, 1917.

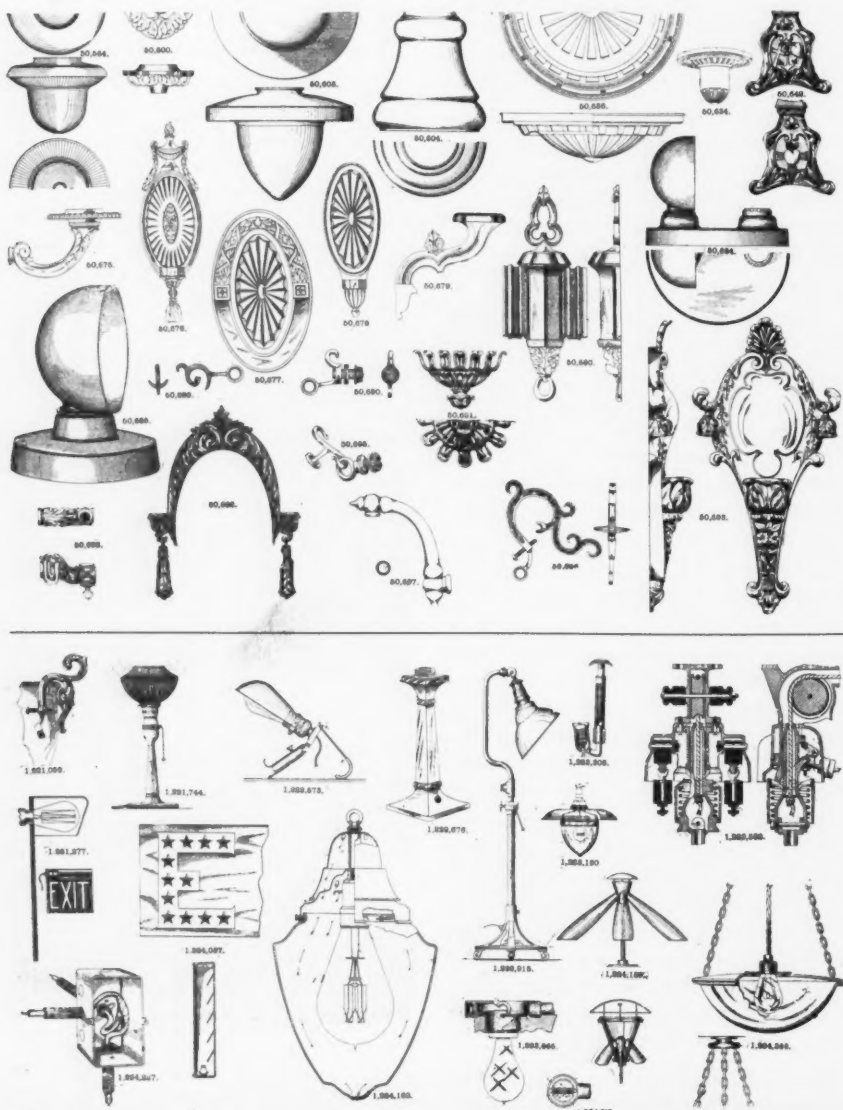
1,224,162. Lighting Fixture. Lester E. Griswold, Pittsburgh, Pa., assignor to Macbeth-Evans Glass Company, Pittsburgh, Pa. Filed Dec. 12, 1914. Issued May 1, 1917.

1,224,189. Lamp. George K. Maltry, New York, N. Y. Filed Feb. 16, 1916. Issued May 1, 1917.

1,224,227. Loom Fastener. Edward S. Snoyer, Toledo, Ohio. Filed Sept. 5, 1916. Issued May 1, 1917.

1,224,316. Means for Attaching Electrical Appliances to Conduit Outlet Boxes. John E. Parker and Daniel B. Winter, Syracuse, N. Y., assignors to Crouse-Hinds Company, Syracuse, N. Y. Filed July 27, 1911. Issued May 1, 1917.

1,224,386. Lighting Appliance. Lawrence Langner, New York, N. Y. Filed Feb. 3, 1915. Issued May 1, 1917.



Copies of illustrations and specifications of any of these patents may be obtained from the Commissioner of Patents, Washington, D. C., for five cents each

